

APPENDIX D

The following DNA sequence was identified in *N. meningitidis* B <SEQ ID NO. 1068>:

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AATTGCCAAAAACAGGGTATTTCTGCGGTGCGCAGGAACTTGCCGAAGACCGCATCGT
GTTTCAGCAGGCATGTTTTGACGGCGCGGCCTACGTTTTGGGTGTGCACAACAGGCTGA
30 TACGGGGACGACCATGTCGATTGCCTTCGGAAGTGTCTGCTTGGGATATCTGCAGAAAATGCG
CGGCGGCAGGCCGATTCCGTTACCGTGCAGATTATCGAAGGTTCCGCTTTTTCGCATAT
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AAAACGTATGCGCGAAGTTGCGCCCGATGCCTTCAGCGGCAATCCTGAAGGGCAGTTTTT
CCCCGACAGCTACGAAATCGATGCGGGCGGCAGTGATTGCGAGTTTACCAAACCGCCTA
CAAGGCGATGCAACGCCCGCTGAATGAGGCATGGGAAAGCAGGCAGGACGGGCTGCCTTA
35 TAAAAACCTTATGAAATGCTGATTATGGCGAGCCTGGTCGAAAAGGAAACAGGGCATGA
AGCCGACCGCATACCATGTCGCTTCCGTCTTCGTCAACCGCTGAAAAATCGGTATGCGCCT
GCAAACCGACCCGTCGCTGATTTACGGCATGGGTGCGGCATACAAGGGCAAAATCCGTAA
AGCCGACCTGCGCCGCGACACGCCGTACAACACCTACACGCGCGCGGCTGCGGCCAAC
CCGATTGCGCTGCCCGGCAAGGCGGCACTCGATGCCGCCGCCATCCGTCCGGCGAAAA
40 ATACCTGTATTTTCGTGTCCAAATGGACGGCACGGGCTTGAGCCAGTTCAGCCATGATTT
GACCGAACACAATGCCGCCGTCCGCAATATATTTTGA AAAAATAAACCATGCCGTCTGA
AAAGTTTGTGTTTTCGGACGGCATACCTTACCGGAAGTCAAGCATGAAACCGCAATTC
ATCACTTTGGACGGCATAGACGGTGCCCGGCAATCCACCAACCTTGCCGTATCAAGGCA
TGGTTTGAACGGAGGGGGCTGCCGTGCTGTTACGCGCGAGCCGGGCGGAACGCCGGTC
45 GGTGAGGCCTTGCGCGAAATCCTGCTCAACCCTGAAACCAAGCCGGTTTGCCTGCGGAA
ACCCTGATGATGTTGCGCCGCGGTATGCAGCACATCGAGGAAGTCATCCTGCCCGCGCTT
TCAGACGGCATACACGTGCTGTGACCGTTTTTACCGACGCGACCTTCGCCTATCAGGGC
GGCGGGCGGGGATGCCGTCTGAAGACATTGAAATTTTGAACATTGGGTGCGAGGGCGGT
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50 TGGCAGACGCGGAGAAAGACCGTTTCGAGCAGGAGCAGGCGGATTCTTTATGCGTGTG
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AACCAGCAACTTGATGAAGTCAGAAACAGCATAGAAAAAGTGTGGACGGACATTTCCGGC
TGCTGATGCGGCAATATTGAAACAAGCGCATCCGCCCGCGCGAAAATCAAACGGCAGT
GCCGCGAGTGAAAATGGCGGTATGCGCCAACTTTCGGCATGATAGAATTACGCTCGGTT
55 ACAAGGCAGGATGCGTCGGCAATATTAACGAACCGCCCGTAACATGATGACCCGAAAGCG
TTTCGGACAGTCCGATTCAAATCTTTTTCTCGCAACAGGATTGACACATGGA AAACATCAT
TGAAAGAACCCGCCCTCAAGTTCCACGAATTTCCCGTGCCGGGCAAAATTTCCGTTACCC

CGACCAAATCTCTGGCGACCGACAAAGATTTGGCGTTGGCGTACTCTCCGGGCGTAGCCG
CTCCTTGTATGGAAATCCATGCCGATCCGCAAAATGCCTACAAATACACGCCAAAGGCA
ACTTGGTTCGCTGCATTTCCAACGGTACGGCCGTTTGGGCTTGGGCGACATCGGCGCGC
TGGCGGGCAAACCCGTGATGGAAGGCAAAGGCGTATTGTTCAAAAAATTCGCCGGTGTGG
5 ACGTGTTCGACATCGAAATCGATGAAAAAGACCCGCAAAACTCGTGGACATCATCGCCG
CTTTAGAGCCGACCTTCGGCGGCATCAACCTCGAAGACATCAAAGCACCCGAGTGTTCCT
ACATCGAACGCGAATTACGCAAACGCTGCAAAATCCCGTATTCCACGACGACACGACG
GCACGGCCATCATTACCGCCGCCCGGTATTGAACGCCCTGCGTTTTACCGGCCGTAAAA
TCGAAGAAGCGACTTTGGTGTGTTCGGCGCAGGTGCGGCCGCGATTGCCTGCTTGAACC
10 AATTGCTGGATTGGGCTTGAACGCGAAAACGTGACCGTTTGGCGACTCCAAAGGCGTG
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TCTCCGCGCGCAACCTGCTGACGCTGAAATACTGAACACCATGAACGAAAAACCCATCG
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15 CGGACGTGGTTATCGGTACCGGCCGCTCCGACTTCCCGAACCAAGTGAACAATGTATTGT
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20 GTGTGGCAACCCGTCCGATTGCAGATTTGGAAGCTTACGCTGCCAAGCTGAGCGAATGGA
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25 AAAATGAAAGAGATGAAACCTGTCCGTTATCATATTGGCGATATGCCGAGACTTCAAAA
CAAACCGCCTCCCGTCATGACGACAGGGCAGTGGGTGTTGACGATGATTGTTTTCATGAT
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30 GATTTGTATCGAATATGCCGAATTGTTTCAAATTTATACCGTTATCGAACGGCATTGGC
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35 ACGGGCGCAAGAGCAAGGCGGTTTCATGATTGAATGCTGAGAGCCGAGCGGAAGATGCGG
CGGATGAGCCTTTGCTGCTTTCGCAAAACCGGTGCGCCGACGGCGGTGGGCAGCAGCC
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CGGATACGGGGCGCACGGATTTGGATTTACTGCCAACGGCAGTTTGGCGGAACCTTTGT
40 TGCGGCTGGATTCCGGTGGATGCGGTGCTGCTCAGCGCGGCAAGGCGGATGCGCTGTTA
GGCCGCTGAAAATATGTTTACAGCCGTATCGAAGCGGGACGGATTTACCGTTTGAACA
ATCCGTCCGAAATACTGGACACAGCCGTCTGAAAAATCAAACCGTCGTCCCGTGGCAG
GTATTGCCAAGCCGGCGCGGTTTTTTGATTGCTTGCAGGAATATGGGCATTACCGTGAAGC
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45 CGGTCAATTATTACGGAGAAAGATGCGGTCAAATTTTACAGCGGCATTGACCGATAATG
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TGAATAAGAACGCCCTCGCGCCATCATTTCCCGCGCAGGCGGGGAATCTAAGTCTCGAATTTT
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50 GAGAAAACCGGTGCTGATTTTTATCTGCATTAAATCATTTAAAGGATTGAATATTAAA
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GAAAAAATATGATTGAGGGCTTTAATGCCGATTAAACCGTATGCGGACAAAGCCCTT
GCCGAAATGCCGGAAGCGAAAAAAGATCAGCGGCGAGAAGCCTTTAACCGTTATCGTGAG
55 AATGTTTTGAAAGATTGATTACGCCCGAAGTGAAACAGGCTGTCCGCAATACTTTATTG
AAGAATGCCCGTGAGATATACAGCAAGAAAGAAATTGACGGCATGATTGCCTTTTACGGT
TCGCTGTGCGTCAGTCCGTGTTGCCAAAAATCCGCGCTTAATCAAGAAATCGATGAGT

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GAAATAGCGGTATCTTGGACTGCATTGTGTCAGGGAAAATCGCGCAACATCATCTGCCCGAG
TTTACGGAAGAGTTGCGGCGCATCATCTGCGGCGGTAAAAATCCCGATGCGGGCTGTAAA
CAAGCCGGACAGGTTGGGAAAAGGCATCAGAAATAAATGATAGCCGTCTGAAATATTGAA
5 GAGGGCATCCGATTGATTGAACCATCAAACCCGAAAGCAACCCTATGGAIAAAAAAATTCT
TAGACATCCTCGTCTGCCCCGTTACCAAAGGCAGGCTGGAATATCATCAGGACAAACAGG
AATTGTGGAGCCGTGAGCGAAGCTTGCCTATCCGATTAAAGACGGCATTCCTATATGCT
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ATTGATTCCGGCGCGGCTGGATTCTGTCGCGCTGCCCGGAAAAGCCTTGGCGGACATCCA
10 CGGCAAACCGATGGTGTGCGCGTTGCCGAACAGGCGGCAAAAAGTAAAGCCGCGCGCT
CGTCTGTTGCCACCGACCATCCCGATATTCAGACGGCCTGTGAGGCGCACGGTATCGAAGT
CGTCATGACTTCAAACCGGCACGAAAGCGGCACGACGCGCCTTGCCGAAGCCTCTGTCTGC
GCTGAAGCTGCCGCCGATTTGATTGTTGTGAACGTACAGGGTGACGAGCCGCTGATTGC
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15 CCTCGACAAAACCGCAACGCCATCTACTTCAGCCGCGCCCCGATTCCCTATCCGCGTGA
TGCGATACGTGCCGAAAACGCGAATGCCGTCTGAAACCGCCGTCCTGCGACATATCGG
CATCTACGCTTACCGCGCCGGCTTCTGCAACGCTATGCCGAATGAGCGTTTCGCCGCT
GGAAACCATCGAATCGCTGGAACAGCTGCGCGTCTGTGGCACGGTTATCCCATTTGCCGT
CGAAACCGCCAAAGAAGCCCCCGCCCGGTTGGATACGCAAGAGGACTTGGACAGGGT
20 TCGCGCCGTATTTAGACCCGTATAAAACAGGTTCAAAGGAAAAGATATGCAGCAACATA
TTGAAAAGTGGCAACACTTGAGCCGGGAAGAACAGAAAATCCTTGCTGAAGTATGGGGTC
TCGTGCAAAACGACGATCAGGAGGTTCACTATGAAATGCTCAAATTGAACGCACCCGATG
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GTTCCCTCGGCTTAGAATGAACGGCGGCGAGGCTGGCGACCGCGTATCCATCCTTTCCG
25 TCATGATTGAAGACAATCCCGACATACCGCAGCTTTGGGCGCAAAAATTAACGCGCTCA
ATTATAGTGGATTAAATTTAAACAGTACGGCGTTGCCCTGCGCTTGTCTACTATCTGTA
CTGTCTCGGCTTCGTGCGCTTGTCTGATTTTGTAAATCCACTATATTTGGCACACGG
GCACAAAGCCCGTCCGACGGTTTGGCACAACAGCCCGCAAAAGCGGCAGAACGCCAACGA
GGAGGAATACCTGACCAAAGCCCTGTCGCAAAACCTGCTGTCAACATTGGATGTGCGCT
30 TGCACGTTTTCTGAAGACGCGTGGTTTCAAGAAATCAAACAGGATGCACAAAAGCATT
TGCTTGAGGATGTGGCAGTCAGGAATATTTCCATTCAGGAAGAAAAGAGTGCCTGATTG
GGTATAATCAGGGTAAATCTTATTTATTTCAAAGATTAAATATTTGCTTTCTGTTTTTC
CTTGACGGTATCGGAAAAGTTGATTATAGTTACAGCTTCTTAGGAGTAATGGCTGAGAG
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35 CCCTCTTACTCCGCCAGATAAAAAATAGACGCTGTGTTTTACAGCGTCTATTTTTTATGC
AATTTTATAGCGGGTTGGTGCAAAACCATGATGGTATTGCCCTGTCTTGATTCTGAATTT
TGTTATAGTGGATGAACAAAACAGTACGGCGTTGCCCTGCGCTTAGCTCAAAGAGAACG
ATTCTCTAAGGTGCTGGAGCACCAAGTGAATCGGCTCCGTACTATTTGTACTGTCTGCGG
CTTCGTCCCTTGTCTGATTTTGTTAATCCACTATAATCCGAGATGCTTGCCGTTTAT
40 TTCCGCTCGTTCAAACGGCGGCTCTGATTTGCGCGGTTTCTGTTTGCCGTATTCGCCTA
TCCGTACCGCAAATGTTATACTGGGAAAATTTACTGATTGTGTTTTACGGCATATTTGC
CGATAGGATGGAAGAGACAAATGAGCAGAATCCGGCAGGCTTTTGCCGCTTTGGATGGCG
GAAAGGCATTGATTGCCTATATTACGGTGGGCGACCCCGATATTGCGACAACCTTTGGCAT
TGATGCACGGCATGGTTGCAACCGGTGCGGATATTTGGAGTTGGGTGTGCCGTTTTCCG
45 ATCCGATGGCGGATGGGCCGTTATTACGCGTGCGGCGGAGCGGGCGTTGGCAAACGGGA
TTTCGCTGCGCGATGTCTTGATGTGCTCAGAAAATTCCTGAAACCGACACGCAAACGC
CGGTTGTTTTGATGGGATATTTGAACCCCTGTACATAAGATGGGTTATCGGGAGTTTGCTC
AGGAAGCCGCAAAGGCGGGTGTGGACGGCGTGTGACGGTGGATTCCCTGTGCAAAACCA
TCGATCCGCTCTATCGCGAGCTGAAGGATAACGGGGTCGACTGTATTTCTGATTGCGC
50 CGACGACGACGAGAACCGTATTAACCAATTCGCGAGTGGCAGGCGGATTGTCTATT
ATGTTTCGCTCAAGGGCGTAACGGGCGCGCAAGTTGGATACGGATGAGGTTTCGCGTA
AAATAGAGTATTTGCATCAGTATATCGATATTTCCATCGGTGTGCGTTTCGGCATCAGCA
ATGCGGAAAGTGCACGCAAAATCGGCCGGGTTCCGACGCAGTTATTGTGCGCAGCCGGA
TTGTGAAAGAAATCGAAAACAATACAGGCAACGAGGCTGCCGCCGTGCGTGTGTTGGTAA
55 AAGAGTTGAAGGATGCCGTGCGCTGACGGCGGTTCTCATCTGAATATTTAGGAGTTG
TCCATGAGCTGGTTAGATAAAATCCTGCCACCAAAATCAAGAATCGCGGAAAAGACGGT
TCTTCAATGTTCCCGAGGGTCTATGGCACAATGCCCGTCTTGTTCGGCAACCGTTTAT

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5 TCTACCGAGTTGCAGCAGAACAATCAGGTTTGTCCGAAATGCAACCACCACAATCCGTTG
TCGGCACGACAACGCCTGAACCTGCTTTTGGATGAGGATGGCAGGGAGGAAGTTGCCGGA
AATGTCAAACCGACAGATCCTTTGAAGTTTAAAGACGGCAAAAAATATCCGGATCGTTTG
AGTGCGGCACGCAAGCTGACCGGGGAAGATGATGCTTTGGTGGTGTGAAAGGCAAGATG
10 AACGGCCTGCCCGTCGTCGTTGCTGCGTTTGTAGTTCCGCTTTATCGGCGGTTCGATGGGT
TCGGTTGTGGGCGAACGATTTCGTACAAGGTATCCGTCGGGGGTATGCCGACAATTGTCCG
TTCTGCTGTGTGTCGGCTTCCGTCGGCGCGCGTATGCAGGAGGGTGTAACTCGCTGATG
CAGATGACGAAAAACAGTGCCGCGCTGCATTTGCTGACGAAAAACGCCTGCCATTTATA
TCGGTGTGACCGATCCGACTATGGGCGGCGTATCCGCCAGCTTCGCATTTTGGGCGAT
15 GTCGTGCTTGCCGAACCGAACGCGCTGATCGGTTTGGCCGTCGCGCGTGATTGAGCAG
ACGGTGCGGAAACGCTGCCGGAAGGCTTCCAACGCGCCGAGTTCTGCTGAAAAAAGGC
GCAATCGACCAGATTGTCGACCGCCGCGATATGAAGCGGCGCATCAGTGATTGATTACG
CTGTTGTGCCGTGACGACAAAGTTTCCGCCGCTGATGGCTGATGAATCGAGTACCGTCT
GAAACCGATGTTTTAGACGGTATTTTTGTGTCTGTTATTTGTTGTGCGGCTTTATCGAT
20 GGGGCTAGCGTCCGGCACGTTCTTTAGGCGTTGTACCAAACCTTTCGTGTGCGCGGGT
ACACCGCCCTCGCAGAATGCCTGATACAGGACGGTGCGCAGTGCGTCGTTGCGGCTTAAT
GTACCGCTATCGGTTTCCATTCGGCGTTTTCGGGGCTGTATCCAGCGGCGGTTGACCGTG
TCGCCGTAGCCGAACACTTTATAGGAGGAAGGTTTGCCGTTGCCGAACCTGATGGAGAAG
CGGGCGCAGAATATGCCCTTTGGCAGTCAGGTTGTCGTAGCCTTTGTCGGAGCGGATATTG
25 AGAATGTAGCGGATGCTGCCGTCGGGCGCGGGCATAATTTGCAGGCTGTCGAGCAGGATT
TTCGGCTGTTTGCCGTAATTTTCATCCACATAAATGTCGAACAGCCGTCAGAGTGCGTA
TCGGGACGCGGCGAGTTTGGCGGTATGTTCTTTAAATTCGCGGCGGCGGCGCTCTTCG
GGCGTTTCGCGGTAGCGGGTGTGATCGGCGTGTCTTTTGGCTGAAGCCGGCAGCGAGG
GACGTGCCGGCGGCGAGTGCGAGCAGCAGGAGGGCGGTGCGGCGCATAAGTTTCTCCAAA
30 TTGAAAACGGCGTTATTTTATGGGTTGGCAAAGGGGGCTGCAAGCAACTGGGGTATAATC
TCCCCCGATTCCCATTTTTTAAACGGTACAAACGATGAACAGCGAAACTTTAGACGTAA
CCGGATTGAAATGTCCCTGCCGATTTTGGCGGGCGATAAAGGCTTTGGCGCAAATGCAGC
ACGGCGACCTG

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 38>:

gnm_38

AGACAACTTTTTGAACAGCATGACGGCAAACCTCGAAAGCATGGACGGGCGGGAACAGGA
GCTGGATTTGATTTGGCGGACAGAAGCCGATATCGGTAACGGCAGCATACTGCAATTTGT
35 CTGCAACTGGGGTTTCCCGCCGCCGCAAAAGACCTGTTCCGTTCTGAAAAAATCGGGC
CGGTACACAGCGCAATGCTGATCCATCGGGCGGCAGACGCATTGGACAAAGAAATCCGCC
CCTCCAATCGGAAGGTAAAAACCTGAAAGAAATGTGGGATATAACATCTCGACAACAAA
ACCGCTCACTGTGAACAGTCTGGATGAACAATATTGGCAAGACCCCGACAAACTGTAT
CTGCTGGGATGGCAATACTATTCCAGCAACCCTGTTTCAGACGGTGGCGGATTCGCATTTG
40 AAGTGCAACTTTCCCTAACAGAAAAAGGCCAGTATGCGGTAGCATACGGCCTTTCTTGCA
AGAAAGATTGCCATGAGCTACACGCAACTGACCCAAGGCGAACGATACCACATCCAATAC
CTGTCCCGCCACTGCACCGTCACCGAAATCGCCAAACAGCTGAACCGCCACAAAAGCACC
ATCAGCCGCGAAATCAGACGGCACCGCACCCAAGGGCAGCAATACAGCGCCGAAAAAGCC
CAGCGGCAAAGCCGGACTATCAAACAGCGTAAGCGACAACCTATAAGCTCGATTTCGAG
45 CTGATTACGACATCGACCCCTTATCCGCCGCAAACTCAGTCCCGAACAAGTATGCGCC
TACCTGTGCAAACACCACAGATCACGCTCCACCACAGCACCATTTACCGCTACCTTCGC
CAAGACAAAAGCAACGGCAGCACGTTGTGGCAACATCTCAGAATATGCAGCAAACCTAC
CGCAAACGCTACGGCAGCACATGGACCAGAGGCAAAGTACCAACCGTGTGCGCATAGAA
AACCGACCCGCTATCGTCGACCAGAAATCCCGTATCGGCGATTGGGAAGCCGACACCATT
50 GTCGGCAAAGGACATAAAAGC

50

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 39>:

gum_39

CCGGCAAACACCGGCGCGTCCCATCCGTGCAGAAAAAGGATACGGAAAAGGATAAACGC
CATAACGTGCGGCGTTTGCTATAATCCGCCCCTTCATTACCGCAGCCCGCCGAAAGATGC
CGATGGCAAAACCGCTCAAATACCCCGTTTCCGCACTGGTTCGTCTTTATAGCGGGGACG
5 GCGGCATCCTGCTCATCGAACGCACGCATCCGGAAGGATTTTGGCAGTCGGTAACCGGCA
GCCTCGAACCGGGCGAAACCGTCGCCCAAACGGCAAGGCGCGAAGTTTGGGAAGAAACCG
GCATCCTGCTGGCGGACGGGCAGCTTCAAGACTGGCAGCAGCAGCAGGTTTACGAAATCT
ACCACCACTGGCGGCACCGCTATCCAAAAGGCGTGTGTGAAAACCGCGAACACCTCTTCT
CTGCCGAAATCCCGCGTGATACGCCCATCGCCCTGCAACCCGAAGAACAGTCTCCTACG
10 GTTGGTTCGATATGGAAGAAGCAGCGGAAAAAGTATTTTCCCGTCCAACAGGCGCGCGA
TTTTGGAACTGGGCAGGTTTTTGGGCAAACGGTAACACGCGCCCGTACACCTTTTCAGAG
GCATCGGGCGCATTTTCAGCCGGACGTTTGTGCTATACTTTCAAACCTTCACACTTTCCCA
AACAAAGGAAACCAAATGGCAGACTTCAACCAAATCCTGACCCCGGCGACGTGGACGGC
GGCATCATCAACGTTGTCAACGAAATCCCGCGCGGACGCAACCACAAAATCGAATgGAAC
15 gCAAACCTGgCCGCATTCCAACCTCGACCGCGTGAACCCGCCATCTTCGCCAAACCGACCA
ACTACGGCTTCATTCCCCAACTTTGGACGAAGACGGCGACGAATTGGACGTGCTGCTCG
TTACCGAACAACTTTGGCAACCGCGTATTCTTGAAGCGCGCTTATCGGCGTGATGA
AATTGCTTGACGACGGCGAAGTGACGACAAAATCGTCTGCGTTCTTCCGACGACCGCA
ACAACGGCAACGCTACAAAACCTTTGTCCGATTTGCCGCAACAGCTCATCAAACAAATCG
20 AGTTCCACTTCAACCATTACAAAGACCTGAAAAAGCAGGTACGACCAAAGTCGAATCGT
GGGCGATGCGGAAGAAGCGAAAAAGTCATCAAAGAATCCATCGAACGTTGGAACAAAC
AGGCATAACGCCCGCATGCCGTCTGAACGCCGTTTCAGACGGCATTTTTCCAAGCTCTA
GGGAATACCGTCCCAATCGGCTATAATCCGAACATACCGTTTCCGACCGAACGCCATGAA
CCGCCGAAAAATCTATCTGTTGCTGTTGCCCTCTTCACACTGGCATTATGCTGCTCGT
25 CCTCTTGGGTGCTTATCTGCTGACCGTCGGCAGCAAAGCCTTCGCCGTCGCCTCCTTTCT
TTTCGCATTCGGCGCACTGTTTCGACAAATCGGCAGCCTCGCCCTCTACCTGCGGCACAA
ATCCCTACGCGCCGCCAATCCGCCACAAAGGAAAACCGCTATGTCTGAAAAACCGGAAA
AAATCGTTTTGGCAAGCGGCAATGCCGGCAAGCTCGAAGAGTTCGGCAACTTATTCAAAC
CTTACACGATCACCCTATTGCCGCAATCCGCATTTCGGCATACCCGAATGCCCGAACCT
30 ATCCACCTTTGTGCAAAACGCGCTGGCAAAAGCAGCCATGCCGCCAAATACAGCGGGC
TGCCCGCACTCGCCGACGACAGCGGCATCTGTGCCGCCGCTTAAACGGCGCGCCGGGCA
TCCATTCCGCACGTTACGCGGGCGACAATCCCAAATCCGATACCGCCAACAACCTGAAAC
TTGCCGCCGAACTTGTTCGGCAAGGCAGACAAAAGCTGCTGCTATGCTGCGTATTGGTTT
TTGTCCGCCATAAAGACGACCCGCGCCGATTATCGCCGAGGGCGTATGGCACGGGCACT
35 GGAACGACACGCGCTCGGGCAAAACGGTTTCGGTTACGACCCGTATTTTATCTGCCCG
AACACGGCAAAACCGCCCGCAATTGGATACGGAGGTCAAAAACCGCGAAAGCCACCGCG
CGCAGGCACTTGCCGAACCTTACGCAAACTCGCCCTTTAAACATCAAAACAATACAAAG
GAAAAAGAATGAAACCCATACGGAAAGCCGTTTTTCCCGTCGACGGGATGGGAACCCGCT
TCCTGCCCGCCACCAAGGCCAGCCCGAAAGAAATGCTGCCCATCGTCGACAAGCCGCTGA
40 TCCAATACGCCGTAGAAGAAGCGTGGAAGCCGCTGCACGGAATGGTGTGTTGTTACCG
GACGCAACAAACGCAGCATCGAAGACCATTCGACAAGGCATACGAACCTCGAAACCGAGT
TGGAATGCGCCATAAAGACAAATGTTGGAACACGTCCGCAACATCCTGCCGCCGAACA
TTACCTGCCTCTACATCCGTACGGCGGAAGCACTGGGCTTGGGACACGCCGTCTTGTGCG
CCCGCGCGCCATCGGAGACGAACCTTTGCCGTTATCCTTGCCGACGACCTGATTGATG
45 CCCCCAAAGGCGCGCTCAAACAAATGGTGAAGTGTACGGGCGCAGCGGCAACAGCATTT
TGGGCGTAGAAACCGTTGAAGCATCGCAAACCGGCTCATACGGCATCGTCGAAACCGAAC
AGCTCAAACAGTTCCAACGCATTACCGGCATTGTGCAAAAACCCAGCCCGAAGACGCGC
CCTCCAACCTTGCCGTTGTTGGACGCTACATCCTCACCCCGCGCATTTTCGACCTCTTAA
CCAATCTTCCGCGCGGCGCGGCAACGAAATCCAGCTTACAGACGGCATCGCCAAGCTGC
50 TCGATCACGAATTTGTCTTGGCGCACCCCTTTGAAGGTACGCGTACGACTGCGGCAGCA
AATGGGCTACCTCGAAGCCACCGTACCGTCTGAAACATCCCGAAACCGGCGAAC
CCTTCCGCCGCTTTTGGAAAAATACCGCACCGAATAACCCCATCAAGGAATCCTTATGC
ACGACAAAACCTGGTCCGGACGTTTCAACGAACCCGTTTCCGAACCTCGTCAAACAATACA
CCGCTCCATCGGTTTCGACCGACGGCTTGCCGAATGGGACATCAAGGCTCGCTGGCAC
55 ACGCGCAAATGCTGAAAGAAACCGGCGTGTGGACGAAGGCGATTGGCGGACATCCGCC
GGGGTATGGCGGAAATCCTCGAAGAAATCCGCAGCGGCAAAATCGAATGGTCTCCGATT

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TGG AAGATGTCCATATGAACATCGAACGCCGCTGACCGACAAAATCGGCGACGCGGGCA
 AACGCTGCACACCGGCCGAGCCGCAACGACCAAGTCGCCACCGACATCCGCTGTGGC
 TGGCGACACGATTACCGTTATACAAAGCCTGATTCAAAGCCTTCAGACGGCATTGCTGG
 5 ATTTGGCGGAACAAAACGCCGAAACCGTCATGCCAGGCTTTACCCACCTGCAAGTCGCCC
 AGCCCGTCAGCTTCGGACACCATATGCTCGCCTACGTCGAAATGCTCGGACGCGATAACG
 AACGGATGGCGGACTGCCGCTGCCGCGTCAACCGTATGCCGCTCGGCGCAGCCGCCCTTG
 CCGGACCGACCTACCCGATTACGCGCGAAATCACCGCCGAGCTATTGGGCTTTGAACAAA
 TCTGCCAGAACTCGCTCGATGCCGTATCCGACCGCGATTTGCCATTGAGTTCACAGCCG
 10 CCGCCTCGCTGGTTATGGTTCACCTGAGCCGCTGTCTGAAGAATTGATTTTGTGGATGA
 GCCCGCGTTTCGGCTTTATCGACATCGCCGACCGTTTCTGCACAGGTTCTGCCATCATGC
 CGCAGAAAGAAAACCCCGACGTGCCCGAATCGTGC GCGGCAATCCGGCCGCGTCATCG
 GACACCTTATCGGTCTGATTACCTGATGAAATCCCAACCTTGGCGTACAACAAAGACA
 ATCAGGAAGACAAAGAACCTTGTTTCGACACCGCCGACACGCTTATCGACACGTTGCGGA
 15 TTTACGCCGATATGATGCGCGCGTAACCGTCAAACCCGACAATATGCGCGCCGCGTGA
 TGCAGGGCTTCGCTACCGCCACCGACTTGGCGGATTATCTGGTCAAAAAAGGCATGCCTT
 TCCGCGATGCCACGAAGTCGTGCCCCAAGCCGTGCGCCACGCCGACCAAGCGGGCGTCG
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 TTTACGGCGTGCTGACACCCGAAGGCAGCTTAAACGCCCGCAACCACTTGGGCGGTACCG
 20 CGCCGGAACAAGTCCGCTTCCAAGTGAACGCTGGCGGGAAATGTTGGCTTAACCCCCAA
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 CGGATACCCAAGCCGACCGCTTCGAACAGATGATGTGGCAGGCGGTGGACAAACTTTTGT
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 25 TCCCCGCGCCGAAAAGACTTGTTCCGTTCTGAAAAAATCGGCGCGGTACACAGCGCAA
 TGCTGATCCATCGGGCGGACAGCATTTGGACAAAGAAATCCGCCGCTCCATCGGAAG
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 AACAGTCTGGATGAACAATATTGGCAAGACCCCGACAACTGTATCTGCTGGGATGGCAA
 TACTATTCCAGCAACCCTGTTTCAGACGGTGGCGGATTTCGCATATAACGTGGGCCAATCTA
 30 TGTATAATAGGAATTCAGAAGGAGTAGAAAAAGATAAGGGAATGAAAAATAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 40>:

gnm_40

CATGAAAATGCAGGCAGTTGTTGTGAATAAAAATGTAGCGGGCGATGTGGAAGTAATCGA
 ACGCGAGGTTCCGCCGTTGGAATACGGCGAGGCATTGGTCGAAGTCGAATATTGCGGCGT
 35 GTGCCACACCGACCTGCACGTTGCGGACGGGACTACGGCGAAAACCGGGCCGCGTGT
 GGGACACGAAGGCATCGGTTTGGTTAAAGAAGTTGCCGACGGTGTGAAAAATCTGAAAGT
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 TACCGGCCGCGAAAACCTGTGCCGTTCCGTATTGAACGCGGGCTACACCGCCGACGGCGG
 40 TATGGCGACCCACTGTATCGTGAGTGCCGATTACGCGGTCAAAGTCCCTGAAGGTTTGGGA
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5 GAACGGAGCGGGGTTGAGGCTGAACAGAGCGAACACGAGGCTCATGGCGGTGAGGGCTTT
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CGTTGCTGTGCGCCGCCCTTGCCAACGGATTGGGCAGTATGGTTTCTATTGGATGGGGC
25 GTTTGCTGCCCTCCCGAAAATGCCGTCTGAAAAACACTGAATCTGATGCGGCGTTTCG
GTATTTGGCTGCTTGCGTTTACCTGGCTGCGCGTCTGCGCGACGCACTGCCGCTTGCCG
CCGGCTGGCTGCGGTGAATCCGTGGACAAGCGGCTGATGCTGGTTATCGGCAAAACGG
CGCGTTACGCCCTTCATTCTGTGGGGAATGCAATATTACGCCGCTGAACCATACGTTATA
ATGCCGAACACACAAACCCACCGTATAAAAAATGAACAGACACATCCGCCAAGAAATCT
30 TCGAACGCTTCCGCGCCGCCAACCCCATCCGACCACCGAGCTGAATTTCAACTCCCCTT
TCGAGCTTTTAATTGCCGTTCTGCTTTCAGCGCAGGCGACCGATGTCGCGGTAAACAAGG
CGACGGCGAAGCTGTTTCCCGTTGCCGATACGCCGCAGCGATGCTGGATTTGGGTTTGG
ACGGCGTGATGGAATACACGAAAACCATCGGGCTGTATAAAACCAATCCAAACACATTA
TGCAAACCTGCCGCATCTGCTGGAAAAATACAACGGCGAAGTGCCGGAAGACCGCGAGG
35 CTTTGGAAATCATTGCCGGGTGTGGGCGCAAAACGGCAAACGTCGTATTGAACACGGCGT
TCGGCCATCCCGTCATGGCGGTGATACGCATATTTCCGCGTATCCAACCGAACCAAAA
TCGCCCCCGGGAAGATGTGCGCGAAGTCGAAGACAACTGATGCGCTTCATTCTTAAAG
AATTTCTGATGGACGCGCACCTGCTGCTGATTTGCACGGACGCTACACCTGCAAGGCAC
TCAAACCGCAATGCCAAACCTGCATCATCAACGATTTGTGCGAATATCCCGCCAAAGCCT
40 GACCGCGCGCCCTTCAAATGAAACGCTTGAAAATTCGGACGGACGTTGTAGAATTTT
AACCTATGCCGTCTGAAGCCGACAAAATGCGCTTCAGACGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 41>:

gnm_41

45 GCAGGTCGTATCTAGAGGATCCCCGGCAATTTCCCTTTATCTGCTTTGAAAAACGGTGCA
TAATCCCGAGCAAAACCGCAATCAGGAGCAATTATGCAAACTATCTGACCCCCAATTTT
GCCTTTGCCCGATGATTTCCGGAACGCGCTTCAGGCAGCCGCGTTTGGGATACGAAAGGG
CGTGAATATATTGATTTTTAGGCGGTATCGCCGTCAATGCGCTGGGACACTGCCACCCCT
GCCCTTGTGATGCTTTAAACGCGCAGATGCACAAGCTGTGGCACATTTCCAATATCTAT
50 ACGACGCGTCCAGCGCAGGAATTGGCGCAAAAATGGTTGCAAAACAGTTTGGCGACAAG
GTTTTTTTCTGCAACTCGGGCTCGGAAGCGAATGAGGCGGCGTTGAAGCTGGCGAGGAAA
TACGCCCGCAGCCGTTTCGGCGGAGGAAAAAGCGAAATCGTCGCCGTGATCAACAGTTTT
CACGGACGCACGCTGTTTACCGTGTCCGTGCGCGGTGAGCCGAAATACAGCAAGGATTAT

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GCACCCCTGCCGCAAGGCATTACGCACGTTCCGTTCAACGATATTGCCGCGCTGGAAGCT
GCCGTCGGCGAACAGACCTGCGCGGTCATCATCGAGCCGATACAGGGCGAAAGCGGCATC
CTGCCCGCCACTGCGGAATATTTGCAAACCGCGCGCGTCTGTGCGACCGGCACAATGCG
5 TTGTTGATTTTGGACGAAGTTCAAACCGGGATGGGGCATAACGGGCAGGCTGTTTGCCTAT
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CCGATCGGCGCGATGCTGGCGACAGAAAAGATTGCCGCCGCTTCCAACCGGGCACGCAC
GGCTCGACTTTTCGGCGGAACCCGATGGCGTGTGCGGTGCGCAGCCGCGCATTTCGACATC
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10 TTGCTGGATTTGTGCAGGAAAACGGGCTTGTCTCACAAGTTTCGCGGGATGGGGCTGCTA
CTCGGCTGCGTGTGGACGAAGCCTATCGCGGACGCGCATCCGAAATCACCGCCGCCGCC
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15 TTACAGCGGCATCAGAAACAAAAACCGCTTCAGAAACGTGGTTCAACGTTCCGAAGCGG
TTTTGTTTGCATCAGGACTCGAACACCAATTCGGTTCCCTGCCCTCTTCGATGACTGC
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20 GTCTTCGTCCAATTCTTCTAAAGTTGCAATCACAGGCAAACGTCGATTAATCTGGAAT
CAGACCGAATTTAATCAAGTCTTCGGTTGACGATGCCGAACAGCTTGGTAATGTCGGC
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25 CACTGTACCTTCAATCAGTTTCAACAAGGCTTGTGACACCTTCGCCGGATACGTCGCG
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GCCGCGCTGGGCTTTTTTCGACATCGAAATCACATTTGCCCAAAGCTTGGTAATGATTTG
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CGGCACATCCCTTTCGCCGCCAAAGATTGCCCGAGCAGGGTTTTACCGATCCGGTCCG
30 GCCGATAAGCAGGATGTTGGATTTTCGACAATTCGACATTAGCTCCTGCTTTAGGATGGCG
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55 AGCGAAGACATCGCCAAACACATCGGCACGTTTCGCCACCTGACCGCCCTGCGCCGCACT
GAAACCGCGGCTTTACCATCGCCAAAGCCACACGCTTGAGGCCTTGGAATTTGAAC
GAAACAGAACGCGACAGCTTGCTGTACCTGCGACGTATTGGTTTCACACTTTCCCAA

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ACCGTTTTAAACGATTATGCCGTCCATATGCTCCACTGCGGACAACGTCCGCGTTTCGAA
GAAGACCTGCCTTCCGACACGCCGGTACGCGTTTACACGGAAAACGGCCGCTTTGTCGGT
CTGGCGGAATATCAAAAAGAAATATGCCGTCTGAAAGCCTTGCGCCTGATGAACACGGCG
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5 TTCCGCAAAATCCCGACACACTCGGACACCCGCCCGCTTATCGCAACTTTGCGAACGCC
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10 ATTATCGGTTTGTATTGAGTAATGATGAGTTAAAACGCCATTCTTTGTGGAAGTGAAT
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15 CCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAG
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45 AAAAACTGCCCCTGAAAACTTTTTGATTTTTGACCGCACTTCAAAGCTAGACGATTTCC
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50 AGTGGAGACATTTAGCCACATTCAGACGGCATTGAAATTAATTTACCAGCATTCAA
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CTTTATTGTTTGCTTGGTATCGACATCGAATTGCGTTGAAATATGGCATTGCCAATTTCA
AGCCTGTGATGTTGTTTAGAAGTAAGACGATTGATGAATCAAAGCGGATTATCTGGCAT
TTTTAAATTGGGCAGAAAATGTGCAGGCGGTTGATTTTCGTTTTTAACTACATTTTCAA
CAAGCTTGAACGATAGCGATAGCGATAACGCCAACGAACAAGGCAAAACCCGCACTGAAC
5 AAGCCCTAAATTTATGCAGGAAAAAGGCGTTGAGTTTGACATTTGGCAGATTGGGTAA
AACAAAATTATCAAAAACACAATGTGATTATTACCAACTCCGAAACCAACAAACCAAAA
CCGAAAAAACCGACAGCGAAACAGAAAAATTGCTGAATAATTGGGAAGCGGCTGATAATC
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10 AAACGGCTGCCGCTACTGTATCGGAAAAGCAGTTGATTGGTCGCGGCGTGCCTATTTTC
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25 GAACGAGTTTGAAGAAGCGTTAATTCAATTTATTTAGAGCATTGGGCGATTGAAGT
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30 CGGATAAGATTCTGCAAAAAGATACACCGCATTATCGTTTGATCGGTTTGCCGTTTTTTA
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35 TTTGCCCTCTCAAAATCGAAGCATCGACATCTTGAATATCGCGGTGTCCCGTAAACGCCAT
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40 TCGACCGCCGTGGTTGGAAACAATCAATGCGTCCGCGCCGCTTTTCGCTGCTTTTCCGC
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50 CGTCGGCGCAATCGCCACCGGCATTTTACATCCTGCCGATCATTTTGGTTTCCAGGCT
TCGGCCTTCCATATTGACCAATACTTTTACGGAAGCGGATGTCTTTGAAATCCGAAGT
GTTTTACGGTAGGTAGTTTCTGTCCACGAACCCGAATCGATGTAATCGTAAACATACG
CGGCATTTTGGCGTTGGCAACGCGGCGCAAGTCTTCGATGCAGGTCATTTTGCTCAAATC
ACGTTTCATTTGTCGCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 42>:

gnm_42

```
5  AGGGTGAAGTGGTCGGGGCGTGCTTCGCTTAAAGTGATATCGAAGTATTCGTTTTGTTTC
   AGTTTGTTTTTGTCGTAGGTTTTAAACGTCCCTTTTTGGCGGTAGTAACGTTCCATGGTC
   TGCGCGTTGTGCAGCAGGGTCGTCTGACTTCGACAGGCGGACGCGCCGGATGTAGGTT
   TTATAGGAAGGGTAGGTGATGAGCGTCAGGATGCCGAGGATGGCGACGGCAATCATCAGC
   TCGAGCAGCGTAAAGCCTTTTTGAACGTTTTTCATAGCAATGTGTTTCCATTTGTTTGTC
   GGTTCGACGGCATTATAACGCCGTATCGGAAATGGCGGAATATGTAAACGGATTGAAATTT
10  TCGGGAAAGCAGATTGTATAAGCCATTAAAAACAAATGGTTATTTTTATTGTGCGGCAGTT
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   CGGCGGCAGCGGTTTGGGGCGGATGGTCTTATCTGAAGCCCAGCCGCAgCTGCTTATAT
   TACGGAAACGGTCAGGCGCGGCGACATCAGCCGACGTTTTCTGCAACAGGGGAGATTTTC
15  GCCGTCCAACCTGGTATCGGTGCGGCGCAGGCATCGGGGCAGATTAAGATACTTTATGT
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   GACCAATACGCTCAATACGGAAAAATCCAAGTTGGAAACGTATCAGGCGAAGCTGGTGTG
   GGCACAGATTGCATTGGGCAGCGCGGAGAAGAAATATAAGCGTCAGGCGGCGTTATGGAA
   GGAAAACGCGACTTCCAAGAGGATTTGGAAAGCGCGCAGGATGCGTTTGCCGCCGCCAA
20  AGCCAATGTTGCCGAGCTGAAGGCTTTAATCAGACAGAGCAAAATTTCCATCAATACCGC
   CGAGTCGGAATTGGGCTACACGCGCATTACCGCAACGATGGACGGCACGGTGGTGGCGAT
   TCTCGTGGAAAGAGGGGCGAGCTGTGAACGCGGCGCAGTCTACGCCGACGATTGTCCAATT
   GGCGAATCTGGATATGATGTTGAACAAAATGCAGATTGCCGAGGGCGATATTACCAAGGT
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25  GAAGCTCGACAGCGTCGACCCCGGGCTGACCACGATGTCGTCGGGCGGTTACAACAGCAG
   TACGGATACGGCTTCCAATGCGGTCTACTATTATGCCCGTTTCGTTTGTCCGAATCCGGA
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   CGCCGCCGAGCAACAGGAAAGCGGCGAACGCGCCCTAGGCGGCCGCCGCGCCGATAAAC
   GAATATGCCGTCTGAACACGGAAACGGTTTCAGACGGCATTGTTATTGATTTACGGAAT
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35  GGGCAGTCCGGTTCGGGCAAGTCCACGCTGATGAACATACTCGGCTGTTTGGATACCGCC
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40  AAGCCCGCGGAAGTCTCGGGCGGACAGCAGCGCGTCTCCATCGCCCGCGCCCTGATG
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45  GAAAAAGCTTCGTGGTCGTTTTATTACGACCAAGTTGTGCAAGCCTTCAGAATGTGGTG
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   ACCGACCTGACCGCCTCGCTTTACGGCGTGGGCGAACAATATTCGACGTGCGCGGACTG
   AAGCTGGAACGGGGCGGCTGTTTGACGAAAACGATGTGAAAGAAGACGCGCAGGTCGTC
   GTCATCGACCAAAATGTCAAAGACAACTCTTTGCGGACTCGGATCCGTTGGGTAAAACC
   ATTTTGTTCAGGAAACGCCCTTGACCGTCATCGGCGTGATGAAAAAAGACGAAAACGCT
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5 TTCGGCAATTCCGACGTGCTGATGCTTTGGTCGCCCTATACGACGGTGATGCACCAAATC
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10 ATGAACAACAGCGACAGCATCAGGCAGATAGTCGAAAGCACCACCGGTACGATGAAGCTG
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15 ATCGGCATCGGTTTCGGCTTTATGCCTGCCAATAAAGCAGCCAACTCAATCCGATAGAC
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TCCAAACCGACCAGGAAGCCGACGGCGACTTTGTTGTCGTGCAAATGGTAAACAAACGCG
CCGCCGTAGGTTTTGCTGTCCAGCGGCCAGCCTGCGCTGTGCACCACCAAACCGGGCTGA
5 TGCTGTTCCGACGGCACTTCCCAAACCTCTTAATGCCCAAGCCGTAAGTTGCGGGCTGG
CTGTTTTGGTCGAGTTGGAACGTTTCGATGATTTGTTTGGAAAGCGAACCAGCGACAACCT
TCGGCAAACAGGGTTTGTGCGCCCAAAGCTCCATGCCGGGTTGGAATGAATCGGTGCGG
TCGCCGTCTTTGCCAATGCCCATATTGCCGGTTGCAATGCCTTTGACCGAACCGTCTTCG
TGATACAGCACTTCGGCGGCGGCAAAGCCCGGATAGATTTCCACGCCCATATTTCCGCC
10 TGCTCCGCCAACCAGCGCACGACTTCGCCCAAGCTGACGATGTAGTTGCCGTGATTGTCG
AAATTCGGGGTAATCGGCAGGTTGAACGCTTTTTTCTCGGTCAGGAACAACACTTTGTCC
TGCGTTACTGTGCGGTGTCAGCGGTGCGCCTTTTTCTTTCCAGTCGGAATCAACTCATTC
AGCGCAATCGGATCGATAACTGCGCCAGCCAGCGAATGCGCCCCACCTCCGAACCTTTC
TCCACCAGCAAACGCTGATTTGCGGCCCGTTTTGTTTCGGCAAGCTGCTTGAGTTTGATG
CGGCCAGACAAACCGACGGCCGCGGCAATCAGGACATCGTATTGCATACTGTGCG
15 CGGGTGATGGATTCTGTCTATGGCGGTTCTGTGTATTTATTATTGAATTGCAAATCCGTA
ATTATACAACGGGAACATATAGTTACCAAATACAACAAAGGTGCTCTGAAAACCATATTT
TCGGTTTTTCAGACGACCTTTGTGCAAAATTTCAATAAGCAGCCACCATTTTACCTGTCCG
ACCGCAAACCTCCGTCTGACGTTTCGGAAGTGTGAAAAACGCTTATCCCCGCCGGCA
TCCCTCCCTTTCCGCCACAACCGCCAAAATCTTACCTGCCAAATTTCCCTCAGGGGTTTGC
20 CAAGCATCCAAAACCTGCGCCCTGCTCATTGAAACATGACCCAGCGACGGGTCGGCAAGC
AAAACCGTATTGCGGTCTATACCGCGCAATACCGAGAAATGATCATCCTTGCGGTATTTT
AGATACAGCATGACGGGGATTGCAACTGTGCAAGCTGCTCGAAAGACAGGGCATAGCCT
TTCGCTTCAAACCCCAAATCAGGCATAATGCGCCGCATATCCTCAAACGACGCGGGCATC
TGCTCCTTATCCAGTTTTTTTAAACAGTCTCTTCCGTGAGCTTTTGCCCGTAAAAATTG
25 TTCAAAGCGTCAACACCGAAGCCGCCCCGAGGAAAAATCCAAATCCTGCTTTACAATA
TTGAAATCGCGCCTTTCTTTCAAACCTCTGCACTTTGATTTTTCCATAAGCAACAGGATTA
TAGTGGATTAAATTTAAACAGTACGGCGTTGCCTCGCCTTGCCGTACTATCTGTACTGT
CTGCGGCTTCGTGCGCCTTGCTCTGATTTTTGTTAATCCACTATAGGTTTCCGTGCGGACG
TGTTCAAATCCCGCTTTCGCTGGAATGACGGCGGAGCGATTTCTACTTTTCCGATAAAT
30 GACCGTAACCTAAATCCCGTCATCCCCACGAAAGCAAAAATCCCGCCTGTGCGATTTCG
GTTTTTTTTGGGCGTTTCGGGAACTTATAAATCGTCATTCGCGCGCAGGCGGGAATCCGG
TTTGCTCGGTTTCGGTTTTTTCGGGCGTTTCGGGAACTGATGAATCGTCATTCCCGCGCA
GGCGGGAATCTAGAACGCGGGACGGCGGCAATATCAAAGGTTGTCTGAAAATTCAGAGG
TTCTAGATTCCCACTTTCGTGGGGATGACGGGATATAGGTTTCCCTACGGACGTGTTTCA
35 ATTCCCGCTTTCGCGGGAATGACGGCGGAGCGATTTCTACTTTTCCGATAAATGACCGTA
ACTTAAATCCCGTCATCCCCACGAAAGCAAAAATCCTGCTGTGCGATTTCGGTTTTTTT
TCGGGCGTTTCGGGAACTGATGAATCGTCATTCCCGCGCAGGCGGGAATCTAGAACGCG
GGACGGCGGCAATATCAAAGGTTGTCTGAAAATTCAGAGGTTCTAGATTCCCACTTTCG
TGGAATGACGGGATATAGGTTTCCCTACGGACGTGTTTCAAGATTCCCGCTTTCGCGGGAA
40 TGACGGCGGAGCGATTTCTGCTTTTCCGATAAATGACCGCAACCTAAACCCCATCTTCC
CGCAAAACAGAAAAACAAAACCTAAAATCCCGTCATCCCCACGATAACAGTTGCGTAA
TTGCGTAGAGTGGGCTTCAGCCCACCGTTTTTCTTTTTCGGTCTGTTGATTGGTGGGCTG
AAGCCCACCTTGATATATCGGAACCTCCCGTATCATAGCAACAAACCGCCCGGCCACC
CGCGCCACCCAAAGGCACACAACCGTTGCGTAGCACAGGGAGCGGCAGGGCAACCCATCG
45 ACACAACCGGACAGTTGCCGGACAACACAACCGAATGTAAGGCAGGTTGATGATGAGTAC
CCGATACCATTACGCAGGTATAGTGAATTAATCTAAGGGGCTGTACTAGATTAGCCCTA
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50 TGACACATCCTTGGAAATGGTTGATGCGGTAATGGATAAAAACCGCTCACGTCCAACCTGTC
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AGGGAGTAACGTTTCAGACTTGGCATTATCCACCACAACGGTATAGACCCGTCCGTTGCG
TTTCAGAATGCCGAAAACAACCACTTTTCTGCGCGACCGCGACCACTGTGCTTTTACG
CCGTCCGCCGAAATCGCTTTCGTCCGGCTCGACAGGGCCCTCAAAAACCTCATCGGCAGC
55 CAAGGCCAAATGATGGTTGATAACCGTGCGGATTTTACGGTAGAACAGTGCTGCCGAATT
GGGATGGATACCAAAATATCGGCGGACGAGGCGGTAACCTCCAGTACAAAAAACCG
AGCAGTTCTTCTGTACTTTTTTCTTAATTTGCAGTGCGTTATCTTCATATTTGAGGG

-430-

TAACATATCTGCTAATCTAGTACAGCCCCAAAAATATACCAAAAACAGCAAAACAAATTG
TAAGGATACGTATAGGCTTTGTAAAGGTAAATTGTGAAAAAGCAGTTTTTTAAACGAAT
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5 TGTCAAAGTGCAGGCTGCTTTGAAATCGGTATTGCCATCTATGAACCACCACTTTGCTTT
ATTTAGCGGGCTTGAGATGTGTATAAGAATATTGTTTTGAATAAATTTAAAGAAAATGA
TAATCGTTATTGACGATTTTAAAGGAAAGCGTAGAGTGCCAATTCTATGAAGCAATACG
GTAAGTAACAATGAAATATCTACTGCTTGGGTATAGAGCATATTTACAACCCGTAAC
ATTCTTGCGGAAACAGAGAAAAAGTTTCTCTTCTATCTTGGATAAATATATTTACCCTC
10 AGTTTAGTTAAGTATTGGAATTTATACCTAAGTAGTAAAAGTTAGTAAATTATTTTAAC
TAAAGAGTTAGTATCTACCATAATATATTCTTTAACTAATTTCTAGGCTTGAAATATGA
GACCATATGCTACTACTATTTATCAACTTTTTATTTTGTATTATGGGAGTGTTTTACTA
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CATTGTGATTTTCAGGGCACCAAAATGGTTATCCCTATGGCTATCTTGACGGTATACGC
15 AAGACAATGCCACAAAATGGCTTTCCGACACGCCAGGGCAGGATGCTTACTCCATTAATT
TGATAGAGATTAGCGTCTATTACAAAAAACCGACCAAGGCTGGGTTCTTGAGCCATACA
ACCAGCAAAACAAAGCGCACTTTATCCAATTTCTACGCGACGGTTTGGATAGCGTGGACG
ATATTGTTATCCGAAAAGATGCGTGTAGTTTAAAGCAGCACTATGGGAGAAAAGATTGCTTA
CTTACGGGGTTAAAAAATGCCATCTGCCATCTCTGAATACGAGGCTTATGAAGATAAAA
20 GACATATTCCTGAAAAATCCATATTTTCATGAATTTTACTATATTAAGGAGAAAAATC
CGCGGATTATTACTCATTGGAATAATCGAGTAAACAGGCTGAAGAAGATAATTATAGCA
CTAGCGTAGGTTCCCTGTATTAACGGTTTCACGGTACAGTATTACCCGTTTATTCGGGAAA
AGCAGCAGCTCACACAGCAGGAGTTGGTAGGTTATCACCACAAGTAGAGCAATTGGTAC
AGAGTTTTGTAAACAATTCAAGTAAAAATAATTTAAAGGATCTTATTATGAATGAGGGT
25 GAAGTTGTTTTAACACCAGAACAAATCCAAACCTTGCGTGGTTATGCTTCCCGTGGCGAT
ACCTATGGCGGTTGGCGTTATTTGGCTAATTTGGGTGACCGTTATGCGGATGATGCTGCT
GCAATTGTCGGTAAGGATGCAAACTTAAATGGTTTGAATTTATGGATGAAAAAGGTGTG
GAAAACCTATGGGATGATACGGTCCGTTAAAAAGACCCGTTTAGAGAAATTTGATCGGGTT
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30 AACACTAGTGAAATTGAGAGAAGTTACTATAAAGCCGTTACCGAAAATGGTGTTTCTTCT
AGTGCAGCTATTGATTTAGTTATTAATCGCTCACTTCCGATATGGCAGATGGTTATTGG
GCATTAGGTTTGGGGATAGAAGCCGAACGTATCCACAATGAGCAAGCAGTAAATAATCCG
AACGGTAGCGAAAGGGATAATAGAAAGCAGTTAATATCTGCTTTAGATAAAGGATTTGAT
GGATCTTTTAAAGAGAAGCATTTTACTTTTTTACAATCTGTGATAATGGATGTAACAAAG
35 TTAGGTGTTGAATATACAATAGATGGTTGGCAAAAAATTTGGAGGTTGGGGTAATGGGATA
ATCAATGATTTATATAAAAGTGTGTAAAAAGAGAGTGGACTGGAATATTGAGATCGTT
AATAATAACATCAAGCAATTTAGAGATCTGTTCCCAATCCGGAAGGCTGGATCGATGAT
GGTCACCAATGTTTCGCTCCTTGGGTTAAAGAACTAAAAACGCAATGGCAAATATCAT
GTCTACGACCCCTTGCCCTAGATTGGACGGAGACGGCATAGAAACTGTCGCTGCCAAA
40 GGCTTTTCAGGCAGCTTATTTGATCACACCAACAACGGTATCCGCACCGCCACCGGTTGG
GTTTCTGCCGATGACGGTCTGCTTGTGCGCGATTGTAACGGCAACGGCATCATCGACAAC
GGTGCGGAACCTTTGCGCGACAATACCAAACTGGCAGACGGTTCTTTTGCCAAACACGGC
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GCATTCCAATCCCTGCGTGTATGGCAGGATCTCAACCAGGACGGCATTTCCTCAAGCTAAT
45 GAATTGCGTACCCTTGAAGAATTGGGTATCCAATCTTTGGATCTCGCTATAAAGATGTA
AATAAAAAATCTCGGTAAACGGTAACACTTTGGCTCAGCAAGGCAGCTATACCAAAACAGAC
GGTACAACCGCAAAAATGGGGGATTTACTTTTAGCAGCCGACAATCTGCACAGCCGCTTC
AAAGACAAGTGGAACTCACTGCCGAACAGGCAAAAGCCGCCAATCTTGCGGGCATTGGC
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50 GCTTATTCTGCCGCCGAACTAAAGAAAGCAGTTGGCATTGTTAGATAATTTGATTAC
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AAGAACGCTTTAGTTTCCCTTTCTGATAAAGCTAAAGCAGCTATTGACGCCGCCCGCGAC
CGCATTGCCGTGCTTGATGCCTACACGGGGCAGGATTCCAACACACTCTATTACATGAGC
55 GAGGAAGATGCGCTTAATATCGTCAAAGTAACCAACGATACATACGACCATCTCGCCAAA
AACATCTACCAAAACCTGTTGTTCCAAACCGTTTGACGCCATATTGAATCAAATCAGT
TTCAAAATGGAAAATGATACGTTCACTTTGGATTTTAGTGGTCTTGTTCAGCATTTAAC

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5 CATGTCAAAGAACTAATCCGCAAAAAGCTTTTGTGGATTGCGCGAGATGCTTGCATAT
GGCGAACTTCGTTCTTGGTATGAAGGCCGAAGACTAATGACCGATTATGTGGAGGAGGCA
AAAAAGCAGGTAAATTTGAAGATTACCAGAAAGTGTGGGTGAGGAGACCGTTGCATTA
TTAGCTAAAACATCGGGTACGCAAGCAGATGATATCCTGCAAAATGTAGGCTTTGGTCAT
AATAAAATGTTTCTTTATATGGTAATGACGGCAACGACACTCTAATCGGCGGCGCCGGT
AATGACTATTTGGAGGGCGGCAGCGGTTCCGGATACTTATGTCTTCGGCGAAGGCTTCGGT
CAGGATACGGTCTATAATTACGA₂TACGCTACCGGACGCAAGACATCATCCGCTTACC
GACGGTATTACAGCCGATATGCTGACTTTTACCCGAGAGGGCAACCATCTTCTTATCAAG
GCAAAAGACGGCAGTGGACAAGTTACTG

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 43>:

gnm_43

15 CCTCGTAAAGTTCCATGCTTTTTTCATGGAAATAGAAAACGACGGTGTTGATTAGGGGTT
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TTTGTGTTAGTGTAGATAAATCGTTTTTTAAATAAGGATAGGAATTATGAATCATAAAA
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20 CACATATTGTCACTAATAACAAAGTGATGATTTCTGCCGATATTATTGCGGCTAATCCGC
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CGGCAGGATTGTGGGAAAAGTCGCCGTTTTTCTGCCATTACGGCGCGCGGATTCCGGGATT
25 TGAACGGCAAAACGCTGGCGGTTTTCGGACGCGGCAATATCGGACGGACGCTTGCCGGAT
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GTGAAGGCTATGTTTCCTTTGAAGATGCGGTACGGGTGCTGATGTGTTGTGCTGCACT
GTCCGCTAAACGCCCAAACGAAAATATGATAGGCGAAAACGAATTGCGGCAGATGAAGC
CTGGCGCGGTTTTAATCAATTGTGGGCGCGGCGGCTGGTGGATGAAAACGCGCTGCTTG
30 CCGCACTTCAATACGGGCAGATCGGTGGGGCAGGTGTCGATGTTTTGACGAATGAGCCGC
CCAAAACGGCAATCCCTTGCTGAATGCACGATTACCCAATCTGATTGTTACGCCGCATA
CCGCGTGGGCAAGTCGTGAGGCTTTGGACAGGCTGTTTGATATATTGTTGGCGAACATTC
ACGCCTTTGTGAAAGGAGAGGCGCAAAACCGCGTGGTTTGAACCTGTCGGGATTGCGGAA
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35 CGACTTTGTGCGCCGGCTGCGCGCCTGTATCCACATCCAAGAGCTTCAGTTTCCCGTCTG
CCGTGGCGGCACTCAAAATCATGCCCTCAGATACACCGAATTTTGCCATTTTGCGCGGGG
CGAAGTTGGCGACGGCGGATGACCATGCGGCCGTTCAATTCGGCAGGTTCCGGTAAGACG
CGGCGATGCCGGAGAAGATGATGCGTTTTTCAAACCGAAATCGAGGTCTGAATTTCAAAA
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40 TCATAAAGTCGTGAAACTCGCCTGTTCCGCGACTTTTTCGTATTTGCCCTCTTCGGCGG
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TTTGCTCCACTCGTTGCATTAAATGTTTCGTATTTGTTGATGGCGTGTTTGCCCAAGGTAT
CGCGTGTATTTGCCCAAGTGATGGCTTCCAAATTCAGGAATTTGGCGGCGTTTGCGGCGG
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45 TGCATACTTCGTGAGGCGTTTCGTCTTGGCCTTCTGTTTGGCGAGTTCCACGGCTTGT
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50 AGTCTTGACAGTTCAAATCGATGTCTTCGATTTTGCTGTTGAGTTTGGCGGCGATGTAGT
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TCGGGGCGCGGTGGCCGGAGAAATGCAGCATAGCGGGCCAGAACAGGGCGTGAAATAGA

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GAATATCTTTGCCGATGAAGTGGTACATCTCGGTTTGGCTGTCGGCTTTGAAGTATTCGT
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CGTCCAGCCAGACGTAGAAGTATTTGCCGCGCGTCGGGGATTCAAACCGAAATACG
5 GCGCGTCGCGGGAAATATCCAGTCGGACAGGTTGGTTTCTTACCTTCGCCCAGCCATT
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CGGAAGTCCATGCTTTGAGGAAGTCGGCGCATTCGCCCAGTTTGAAGAAGAAGTGTTCGG
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10 TCGGGCATTGCGCTTTGACGAAGCGGTGGGCGAGGAACATTTGTTTTTCGGGGTCGAAAA
GCTGCTCGATGACGCGGCTCTCAATCTTGCCGTTGGCTTTCAGCGCGCGGTAAATGTCTT
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15 GCACCATGTGGCCGAGGTGGATGCTGCCGTTGGCATAGGGCAGGGCGGAGGTAACTAAGA
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20 GACAGTTTCCGACGTTGGCGCGGTGCGCGGATAACGTGCACACCTTCGGTGGCATTAAAA
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25 CGCCCTAAAAACAGCGCGCTGGTTTTCTTGGCAAAGTGTGCGCCCATGCGGCAATTTGA
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30 ATGGAGAGGCTGTGGCGGTGTCCCAAGGATTTGGCGTATTTCAACGCCTCCATCGTGTCC
AGCGTTTCGCGGATTTGGGAAATGGTAATGACCAGTTGGTCGGAATCAGCAATCAGCTG
CGGTATCGGTATTCGCTGGCGATTTTCGACGTCGGACGGGATTTTTCGATGGATTCCAAC
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CGGATGCTTTCAACACGCTTTTGGCATCTTTGCCGAAGTTTTCGGGGATGAAGCCGCCG
35 TCGAGGAAAACCTCCGCCGTGTCTGCAATCGCGCGGGGCTGCTCGTGGATTTCTTTTTCG
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TTGCGTTTCGCGAGGCGAGGCGGTTTTTATCGGTGAGCTTTTGATGCCGTCTGAAGCCAGC
AGCGCGATGTGCGCGTCTTCGAGGTACGCCACGCGCGCGTAAAGGCGATGACGCGGAT
ACGTCCGAAGCGATAAAGGTTTCATCGTCGCCCCAAAGCGACCAAAAGCGGGCAGCCATA
40 CGCGCCACAATAATTCATCAGGCTTGCTTTGGGCAATAACCGCGATGGCGTATGCGCCG
TGGAACGTTTTGACCGCTTCTTGTAACCGTTCAAACAGCCTGCCGCCGTTTTGCGCGTAT
TCGTGATTGATGCTGTGTGCGATGACTTCGGTATCCGTTTTCGATTCAAACGGTATCCC
AAACCTTCAAACGTTTTCGCTTCGCTTCAAAGTTTTCGATGATGCCGTTGTGTACGACC
GCAATCATACCGCGCTGATGTGCGGGTGGCGGTTTCGGCTCAGTAACGCCCGCGTGTGTC
45 GCCCAACGCGTATGTCCGATGCCGATGCCGCCGCTGATGCCTTTTTCGCGTGCCGCTCC
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50 ATAAACCGCCTCCCGCGCGGAAACAGCAAAATGCCGCTGAAGGCTTGGGCTTGCTCA
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GGCGGTGTTGGCGGGCTGCGGCAAGGATGCCGCGGTTACGAGGTTATTGGCGGAAAA
55 GTCGGACAAAAAGAGGGTATGATTGCCGTCAAAAAAGAAAAAGGCAATTACTTCCTTAA
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GCTTCGATAAACACAGGGATAGGGGAAATCCCGATCAAACCTTTCGACGACGGGAAAGA

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GCTGTATGTGCAACGTAGGCAGTATGTCAAACCGATGCGGCGATGAAGGACAAAATCAT
 CGCCCATCAGAAAAAGTGGGACAAACAGCACAGGCATACCGGACGCGGAAATGCGTT
 GCCGTCAAACCAGACGTATCAGCAGCATCTGGCGGCGATCGAGCAATTGAAACGCGCGTT
 TGAAGCCGAGTTTGTACGAATTGGAAAAAGAAATCAAATGCAACGGCAGAGCCCGGCATT
 5 GTTGCTTTAGTAGGGGACAACCGGGAGGATGCCGCCGTCCGAATCGGATGTGCGGTTTCT
 GTACCGGTACGGGCGGGCAGGAATGTCCGCCCTTTTTGTTTCGGATGCGGTTTGAATACCCG
 TTTGATTCGACCGTTTGTCAAGGGGTATTTCCGTTTCGGGCGGAAATTATAGTGGATTAAC
 AAAAACAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTCA
 AGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTGCCTTGTCTT
 10 GATTTAAATTTGATCCACTATAATTCCGTCAAATAAGAAAGGAATTTTGTGCCTGCGGTA
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 TTCCGGTTTACGGGCGGTATTCGGGCTTCATACCGTTGGGTAGGAGCTGCCAGACATATC
 CCGTGGTTTTCTGTTTCCCGCAAGTTCGCCGGCTTCGTGCGCGTATCCCCAAAAATAAT
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 15 GGGCTTTGCGGGTAACCGGATGGGCGGTGGCGACAAATAAGGGCGCACCAAGGTAATGT
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 20 GTTCGTTTTTGTGCGCATAGCCGATGCGGATGTATTGCGCGACGGGGTTTTTCAGACGGC
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 AGGCTTTGGCGGCACACATCCTGCCAGCCTTGCGCGTTTTTCAAATTGGCGCAGCCGAGG
 GGCTTCTTCAAACCTGCCTTTGATTGCTGTTGTGCGCGCGGTGATGGGGAATCGGGAGA
 GGTGCGCGGTATGTGTGCCGCCGTATTGTGATTGTGCGCGTGTTTTTTCCCGTCTGCC
 25 TGATGCGGACAAGGGCTTTTCCGCTCCGCAAACCGGCAGGCGAGGGGACGGAGATAAAAT
 CGTCGGGAATACCGTAAATCGGGAAGCGGCTTGTGCCGTCCGCCTGTCTGCTGCCCTTCA
 GCACCGGTTTCGTAATAGCCGGTAACCGTACCGGCAAGGCTTCCGTTGCCTGCAACCTGCC
 ACGGCGTGAAATAGCGTTCAAAAACTGTTTTGCCTGAAAGGAATGGACGGGGGTTTGAA
 AGCCTTGGCGCGCACATCCTGCCAGCCTTGCGCGTTTTTCAAATTGGCGCAGCCGAGG
 30 GGAAGGATTGCAGGCTTTTGGCGAAATCCTGCGCGCCAGTGGGGCAGGGACAGGTGCG
 GTACAACGGTATAGACGGCCCCGCCGCCGACCGTTCGTTCCGGCGGGGTTCGGGGATGC
 CGACCGGCCGGTCCGGGCCGTTGATGACGGATGTGTGCGGTTGCGGAAAGGTTTGGATGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 44>:

35 **gnm_44**

CCGGGTTAAGAAATGTACAAGCGGACAAAATATTTAATGGGTATCAAAGAATGACCTAC
 CGTGAATTAGTTGAACGTCAGTTGGCTGTGCGCCATGCCGATTTGGAATTGGGCTTAAGC
 CGCGCACGCGAGCAAGAGCCGTTTGTCAATCATGTTCCGATCTGTTGGATAAGGCAGGC
 40 ATTAGTACGCGGTACGCATGGATAAGGATTTTCAGACGACGTTTCACCTTGAATATCCA
 ATTACGAATATGACACCTTTAAACGTGCGGTTTGGCAAATTTGGGGGCGTATTACTGT
 GTTTGTAATGATGGTGATGGACTGGAGATTGCCAGCAATCGCCCTGACGGTTACGCCGTC
 CGTATCGTATTCGGCGATGTGCCGTTTAAAGGGGTTTTAAATGGACTTTGAATTTGGTT
 TCAGAACCCTGTGGCCGATTGCGACGCGGCATTTTGGTTTTGGGTCAACGGCATTTCAG
 GCGCCTGAAAGAGGCGGACAAGCGTATCGACGACCTTAAAGAGGAGTTGCACGCGGTCA
 45 AGCTCTCTTATCACACCAAGGCGGACGCCAAGGCAGACAGCACTAATATTGCGGCGGCCCT
 TGGAGCGAATTGAAAACAAGTTAGAAAAAGTAAACGAAAACTGGACAGGAAAGCAGACA
 AATCATGAGCCACCCGATTTTGGATGCCTTGGCGCGTATTGAAAACAAGACTGATCAAAC
 GCTGAAAAATCAGAAGGAAATGCAGGCGGAAATTGCGCAAATTCGCCAAGACACGAAACG
 CACGGCCATTACATTGCGCGCACTGGGCGGCGCGGTGATTACGGTCGGCTGGGAATTGCT
 50 TAAAGCGAAAAATGGGACTGTAATTATGGCTCACCCGCAAGAAATCCGTGAAAAGTTACGC
 CGGCTCTATGTAGCGCGGAGCAAACTTTGGAACGCGCGCCTTGATGTGCGAAATCCCG
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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 45>:

gnm_45

15 CGCGTCCAAATCAACcGCGACACCGGCGAATACCAAACCTTCCGCCGCTGGCTGATTGTC
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GTTTTCTGCTCACTTCTGCTGAAGGCGGCGGCATCAATTAAGTGCAGGATTTCGCG
GCGCGCTTCGCCGTCCAGCCGCTGCCATTGCGCGCGGCGCATGGCTGTGAGGCGGTCAAG
TGTGCTGCGTTCCGGCAACATGGTGGCGAGGTTTTCCACAGGCGCAGTTCCGCTTCAAA
ATCAAAGGCGACGGTGTGCAACCTGCGAAAACGTGCAGGTTTCTCCTCGCCAGCATGGT
50 TGTCACGATTCCGGGAAGCTGTCCGCCGTAAAGTTGAACAGGGGCATAACCGTTTGGC
ACACCATGAAAGGATTTTCGCTGTGGTAGAAACGGTAGAGGGCAACAGCCGCTGCTGCAT
GATGACGTACATTGCCATATCGCTTTCGCAAGACTTGCCGTAAGACTTTGGCTTCTGATT
GAAATCATGGTGGCAGCGTGGCTGCCGAGAACTGTTGCAGCCGTTTCGATGCCGTCTGA
ACGATTGTCCGTATGGTTTTCCAGCCATTCCAGCACGCCGCCCGCTTTCGAGTCCGGG
55 CGTGTGCTACAGGAAAACAGCGTGTGTCGCGCGTTCGCTGATGGCGGCTTCTTCGACATG
ACGCGTGGTTCGATGGGGCGTTTTTGACTTCGCCGAAACCGCTGTGCGCGCAAAAGGGTACG
CAGGAGCGAGGTTTTGCCGGTGTGGTGTGTCGACGACGGCGAGGGAAAGGGGTGTTT

5 GTTCATGATGTTTTTGAAGAATGGATTTTCAGACGGTCTTTTTTCAGAATGGCGGCTTAA
CAGAACATTTCAAGTGAGTTTATTGGTCTTTCAAACGCCCTTCCTGCGCCGCCCTGTCAG
GCTCAAGCCACGCCGCGCCGCATTCGGCCAGCGCGTTACGCCAATGTTCCAGCTTTTCCG
AAAGGTCGTCTGAAAGCCCCGTGCCGCCAAAAGCTGCACCACCGCGCCGCCCTGCGCCG
10 CTTCCGAGAGTCGGACAATCTGCCGCAACACGCCGCGGTCCGGCACAGTTTGGGCGCGCA
CGCCGATAAGCAGTTGCGCCGGTTTCTGCTTCAGCTCTGTCTCCAGCGCGGCAACCTGTT
CCCGATTGGTGGCAACGCCCTTATCCAGCCATTCTGCGCCAGCCTGCCCTCGAACCATT
CGCCGTCTGCGCACTCGGTCTCCAGCATGACCGCCCATTTCCGCGCATCGTTCAAGATGA
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15 GCCAGCGCGGATGACCGCTGATAATAGGGCTTTTCAAATCCAATCCGTTTTCGCTTG
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GGCCTTCGATGACCGCCCGCGCATCGGGACAGGGAACCGAGTTTCGACGGCAGCCATG
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20 ACGTATATTGCCGACCAAAAGCAGCAACAATACCGACACCAGCATTCCGAGCAGCGTGC
AGAGCCACAGGCTGTGCGACGTTGCGCCTATTTTCAAACGTACCGAAGGTTGCCGCCACT
CGTCCGCATACAGCCGCAACACCGCCTGATTTACAGGGTCTTTGCCCGAAACCACGTCG
CCGGACTGCTGAAAAAACGCCCACTTTACACGCAGGAACAACATTGCCAACCATACTG
CCAGCATCAGCGTATTCATGCCCAACACGCCCGCCAAAACCAAAAGAAATTCAGACCCCT
25 GATTGTCCATTAGAAGATAAGTGACTGAAAAACCGGTAAAAAATGCAAACGTCGCCGCCA
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TCCTGTCAATCATCTCCGCCGACGGATGATTTTTCTCTCCGTACTGCCGTCCACGCGGC
GCAAAGCCTCCGTGCGCTGTACGGGATCGCCGCTGAAAATAAAACCGCCTTCGTCCAAAA
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30 AAAACAGATTTTAACACACGCATTTTCAAGAATATTACAGTGTAGGCAAAGAGTAAATC
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35 TCGGAATTGCGCGGAAAACCTGAAAAGCATTTTGAAAAAAACCGACCACTGCATGATTT
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40 GGCTGGCGGCAGGCGGTATGCTGTACAGTGTCGGCATTACTGGTTTGTAAACGATGAAA
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45 GCGCGGATTTCTTTACGCAACAAAACAGGGCTATCAGGTTGGGGATAACCATAAAACCG
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50 GCCGCGCCCTGTTCCGCCGAAAGGTTGGCATCGGTGAGCAGGATAATCAATGCCGTAGCC
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55 ATATGGTTCGAAAAATCAAACAGGATAACGACGGCGCACAAAATATAAACACCGCCATA
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ACGGCAGAAGCAATGGAGTTTGCTGTGTCGATTACCGATAAAGCCCAATGCGATAATC
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AGACCGTGGGTGATGTAGAACGCCGCGCCCGGATGTATTGCCGTGGCTGACGACGCGG
TATTTCTGCGCCAGCAGTGCCTCCGCAAAAATCGTGGACATCCCCAAAACGGCAGAAACC
CACATCCAAAAAATCGCGCCCGGCCGCTGCGGTGATGGCGGTGCCACGCCGGCAACG

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TTGCCCGTACCGATTTGCGCAGATATGGCAACCGCCAACGCCTGAACTGCGATAAAGAC
TTGTCGTCTTTATCGCCTTTGGCAAACAAGCCGCCGAATACGGATTTGAATCCCGCGCCC
AGCTTGGTAATCTGCGGCGACCAAGATACAGCGTAAAAAACAGGCCGATACCCAAAAGC
GCGTAAATCAGCAGGTAGTCCCAAAGGAACCGATTGACTGTACCCACCAGAACAGACAAT
5 ATATTTTCCATAAAATAAACCTTATCTTACAATTAATGACTGCCTTCCAAAAGACATT
CCAATAAGGAAACACGGCGAGCAGACCGTATTTGCCGCAACAGATGCCTTAAATTGTCAA
CAATCGGGGAGAAGCTGCGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 46>:

10 **GNMAA91R gnm_46**

CCTTCGACCAAAACGACTTCGTACTGCGCCGCCAATTCTTGTGTGGCGGTGCGGATTTTG
TCCAAGTCCAAAGCCCTGCCATCCAGTCGGGCGGCGAGGTGAGGCGAAnGGnGATAGCTG
AAGATTTGCGGCATAGTCAGCCGCCGTTTGTGCGCTTCTGCATCGGTATGCCATAATT
TTGCGGTGGACGGCGATGTCGTGCGCCAATAACCTCATGATGGAATAGTACCGTTTTTCA
15 AAGGTACTTTAATCATAGAGCGTCGAGCTTGATCCATTGCTTTTTGAACAGCAACTGGTA
CTTCTTTTGATTTACCTTTGCCCATACCAATGnGACCATnACCATCAACCAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 47>:

gnm_47

20 TTTATTATGCTGCCTTTCCCTGCTGATTTCTGTCCGGTACCCTGAGTCAAGAGTCTGCA
TTTGAAACTTACCGTGCCATTGTTTCCCATCCTTTGGTCAAGCTGGTTTTAATCGGTGTA
TTGTGGGCTTATCTGACCATTCTCTCGCCGGTATCCGCTTTTTATTTTTGGATGCGCAC
AAAGGCCCTTGAGCTGAATACTGCGCGCAATACCGCTAAAGCCGTATTTGCTTCTGCATTG
GTTTTGACTGTCTGTTTTGGGAGCGTTGTTATGGTAGAACGTAAATTGACCGGTGCCCATT
25 ACGGTTTGC CGCATTTGGGTGATGCAACGTGCGACTGCGGTATTATGTTGATTATACCG
TTGCACTTTTAGTGGTTCTATTTTCCCTGCCTAAAGAATATTCGGCATGGCAGGCATTTT
TTAGTCAAACCTTGGGTAAAAGTATTTACCCAAGTGAGCTTCATCGCCGTATTCTTGACG
CTTGGGTGGGTATCCGCGATTGTTGGATGGACTATATCAAACCCCTTCGGCGTGCGTTTGT
TTTTGCAGGTTGCCACCATCGTTTGGCTGGTTCGGCTGTCTCGTGTATTCAAGTTAAAGTGA
30 TTTGGGGGTAAGTATGGGTTTTCTGTTCGCAAGTTTGATGCCGTGATTGTGCGCGGTGG
TGGTGCAGGTTTACGCGCAGCCCTCCAATTATCCAATCCGGTCTGAATTGTGCCGTTTT
GTCTAAAGTGTTCCCGACCCGTTTCGCATACCGTAGCGGCGCAGGGCGGTATTCCGCGCTC
TCTGGGTAATGTGCAGGAAGACCGTTGGGACTGGCACATGTACGATACCGTGAAAGGTTT
CGACTGGTTGGGCGACCAAGATGCGATTGAGTTTATGTGCCGCGCGCGCCTGAAGCCGT
35 AATTGAGTTGGAACACATGGGTATGCCTTTTGACCGTGTGGAAGCGGTAAAATTTATCA
GCGTCCTTTTCGGCGGCCATACTGCCGAACACGGTAAACGCGCGGTAGAACGCGCCTGTGC
GGTTGCCGACCGTACAGGTCATGCGATGCTGCATACTTTGTACCAACAAAACGTCCGTGC
CAATACGCAATTCTTTGTGGAATGGACGGCACAAGATTGATTTCGTGATGAAAACGGCGA
TGTCGTGCGCGTAACCGCCATGGAAATGGAAACCGGCGAAGTTTATATTTCCACGCTAA
40 AGCTGTGATGTTTGTACCGCGCGCGCGGTTCGTATTTATGCGTCTTCTACCAATGCCTA
TATGAATACCGCGATGGTTTGGGTATTTGTGCGCGTGCGAGGTATCCCGTTGGAAGACAT
GGAATTTGCGCAATTCACCCGACCGCGGTGGCGGGTGCGGGCGTGTTGATTACCGAAGG
CGTACGCGCGGAGGGCGGTATTCTGTTGAATGCCGACGCGCAACGCTTTATGGAACGCTA
TGCGCCGACCGTAAAAGACTTGGCTTCTCGCGACGTTGTTTCCGCGCGATGGCGATGGA
45 AATCTACGAAGGTGCGCGCTGCGGTAAAAACAAAGACCATGTCTTACTGAAAAATCGACCA
TATCGGCGCAGAAAAATATGGAAAACTGCCGGGCATCCGCGAGATTTCCATTCAGTT
CGCCGGTATCGATCCGATTAAAGACCCGATTCCCGTTGTGCCGACTACCCACTATATGAT
GGGCGGCATTCCGACCAATTACCACGGCGAAGTTGTGCTTCCGCAAGGTGAAGATTACGA
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50 GAACCGCTTGGGTACCAACTCCCTGTTGGACTTGGTGGTATTTCGGTAAAGCTGCCGGCGA

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5 TGAGATTCTGAGCAAAGGCGTTCGAGAAGTCATGGCGATTGCCGAGCGTGTGAAACGTAC
CGAAATCAAAGACAAGAGCAAAGTGTGGAATACCGCGCGTATCGAGGCTTTGGAATTGGA
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10 CGGTGCGCACGCTTCAGACGACCATCCTGAGCGCGATGATGAAAACCTGGATGAAACATAC
GCTGTACCATTAGATATCAATACCTTGTCTACAAACCGGTGCACACCAAGCCTTTGAG
CGTGGAATACATCAAACCGGCCAAGCGCGTTTATTGATGCGTTTTTCAGACAGTCTTCGCC
TCAAAGGTCGTCTGAAATCTAACCATAACCCACATTGAAGTCTTGAATTTATAATACAAA
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TACCGTTACAACCCGGATGTTGATGCCAAGCCTTATATGCAGCGTTACGAGTTGGAATTG
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15 TTGTCTTTCCGCCGCTCCTGCCGGAAGGCATTTGCGGATCGGACGGTATGAACATCAAC
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CGTCTCTGCCAGGTCTGCCTGTTATCCGCGACCTGATTGTGGATATGACCCAGTCTTTC
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20 TGCGCCTGCTGTTGACTGCCTGCCCGTCATTTTGGTGGAAACCTGATAAATTCGTCGGT
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25 GAAAAAGAATTCGAGCATTTGAGCGATAAAGAGCTGTCCGAGTTTCCGAAATCCTTGAA
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30 CAGGCAGGTTTGGAGCTGCCGCTATTGGAAGCCAGCATCGGGCAGCATGTGGTTGACATT
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35 ACGATGGTGCATGAACAGCTGACTTGTTCTTCCGGGGTTCCGCCGCGACGCGCATCCG
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ATTAGCAATCCCGAACACCGCAAATCGCGATTACCGCCTGATTTCTAAAATCCCGACC
ATTGCGGCAATGTGCTACCGCTATTCAAACGGTCTGCCGTTCAATTATCCGAAGAATAAT
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40 CCCAATCCCGTTTTTGGCACGCGCGCTCGACCGCATCTTTATTTGCATGCCGACCACGAG
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45 CCGCGTGCCAGCATTATGCGCGAAACCTGCTATGAAGTTTGAAGGAATTGGGCTTGGA
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50 CTTTATACCGGTTCCGAAACCGCGCTTATGTGCCCGCAGGAGGTAACATACATTA
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55 GCACCTTACATTGAGGAATTGTACGAGGCTTTTTTGGAAAACCCCGATGCGGTTGATGAA
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5 GTTGGCGGCGGTGCGGATGAGGCAATGCTGAAAAAGCAAGTCAGCGTTTTACGGCTGATT
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15 GTCATCATCGGTATGGCGCACCGTGGCCGTCTGAATGTTTTGGTGAACATTTTGGGCAA
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20 ATTCACGGCGACTCCGCAATTTATCGGTCTGGGAGTCAACCAAGCGACATTCAACCTGTCT
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25 CCGCGTGGGTGCGGAAGTTACCATTTCTGAAGCCGCGCCGACTTTCCTGGCTGCCGCCGA
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30 CTTTATCAAAGTAGATGGCGAATGCCGTACCAACCTGCCTAACGTATGGGCAATCGGCGA
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35 CAAAGGTACGGTTAAAGTGTGGCAGATGCCAAAACCGACCGCATCTTGGGCGTACACAT
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40 TCTGATTTATAATTCCGTGAGACAAACAAACAGCATTACATTACATTATGAACAAAGAA
TAGTCGGTATTTTCTTATACCGGCGGGCATCATCAGCATGTGTATGGCCGCATTGTGGC
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55 GCAACCTTGCCAAGCTCGCGAAGTTGCGTTCCAACCTGGGCTTGAAAGACAAACAAATCAA
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15 GCCCGCTTCGCGAGAGAGGGGACGCCGGCAAGAGTTCGCGGATAGGGGTGAACAGGCC
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55 GATTATTGGCGGGCGGTTTGGCTTTGAGCCTGCTGGTGTGATATGTTGCGGCTGGTGGTC
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40 GATATTGTTGGAACGCTCTTTGTTGAGGTGTTTGTGCGGACTTCAAAGGTGTTGGTGGC
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45 AAGCGTGAAGTTGTCCAGTTTGCCTGTTCTACACCGAAAAAGCTGTAATGTTGCACTTT
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50 CCGTTGCTTCCATTTCGGCACGGAGTTTCGTAGCGTTTGTGCGCAGGTCTATCCACGGTCT
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55 GCCAACCCAGACAGCCCGATGCTGCCCGTTTGGCAATCGGCGTGGCTGTGCGGCGAGGCG
TTTCAGATTGCGGTAACGCGGTACGGCGTAATCCCCGATTTGCGGTACAGCCCTTCCGT
GTGCAATACAAAGTTTTTGCCCAAACCGATATTGATGCCGCGGACGTGAGTTTTTCCAG

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ATTGCCGCTGCTCAAACGCAATCCGAGTTCGCCCCGATACGCCGTTTTTCAGGCATTTTTTC
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5 CCGCCTGCCTGTTTGACCGCAATGACGGGAGCAGACGCCGCCGCCGCTATTGCGAAGC
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CGGACGGCTTTTGCCGACGACGCTGACCGTTTCCAAATCCACCGATTGCTCAGTTTTATG
CGG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 48>:

gnm_48

TAGTGGATTAACAAAAACCAGTACGGCGTTGCCTGCCTTAGCTCAAAGAGAACGACTCT
CTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATCTGTACTGTCTGCGGCTTCG
15 TCGCCTTGCTCGATTTTTGTAAATCCACTATATCGATTGAAATTTTCAGAAAATGAAG
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20 AGCGTCAGCGAACGGCGCAAAGAGGGCAGGTAAAAAGCCTGAAAATCTCGGTTTGATGCT
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25 CAACCTGCCGACTTCGCAAGGCTATTGCGATTCTAAAGGGCTGTATTCCGCCCGCAAAGC
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CGGCAACGGCGTGTCCGAGCTGATTACGATGTCTATGCAGGCATTGCTCAACGACGGCGA
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30 TATGGAAGCCAAAATCACGCCCCAAAACCAAAGCCATCGTCGTATCAATCCCAATAATCC
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35 TGCAAAAGGTTACATCGAGGTTTGGATATGCTCTCGTCTATGCGCCTGTGTGCCAATAC
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40 AGTCTTGCTGGTGCAGGGAACGGGGTTTAAATTGGATCAAGCCCCGACCATTTCGCGATTGT
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ACGTAGCGTCCGGCATCGATCTGCGTACAGCTTTCACATACGCCGAAGGTTCCGCCGTGT
TGCGCGTTTTTCGAGTTGAGGCTTTTGGCAAGGATGCGGGCGATGGTGGTTTTACCTACG
CCGCGCGTTCGGTTCAGCAGGTAGGCGTGGTGCAGCCTGCCCTTCGTCCAGGGCGTTTTGC
15 AGGGCTTTGACGACGTGTTCTGACCGACTAAGTCGGCAAAGGTTTTGGGCCGCCATTTT
CGGGCGAGAAGTTGATAGGCCATGTTTTCTCTTGGTTTCGGTTCGTGATGTTTCTGTCGG
TGCGTCGGAATGCCGTCTGAACGGCGGTCTCGGGCGGCGTATTCTAGCACTTTCGGCTTA
CTGTCCGCGCAAGAAGTGCCTCAATTTTCAAAGTCAGTTTGACCCAAGTCGGCCT
GCCGTGGTTGCACTGGTTGCTGCGCGGCGTATTTTCCATATCGCGCAGAAGGGCGTTCAT
20 TTCGGGCAGGGTGAGCCGCGGCGGCGCGGATCGAGCCGTGGCAGGACATGGTGGCGAG
GATGCGGTTTTCGTGTTCCTCGATGGTTTGGCTGCTGCCGACTTGGGCGAGTTCGTTAA
TACGTCTTTGGCGAGCGAGACGACATCGGCTTTGCCGAGCATGGCGGGAACGACGGAC
GGCGAGGGTGTTCGCCCCATATCGGATAATTCCAGCCCCAAGCCTGCCAGCGTTTCGGC
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25 GCGTTGGCTTTGCAGGTTGCCGTTTTCTGACGTTGGCGTTTCATTTTTTCGTAGTTGAC
GCGTTCCGGCGGCGGCGTGCATATCGATGAGCAACAGGCTGTCTTCGGCTTGGGCAAGAAT
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GAAACGTGCCCTCGAATCGGCTTAACCTCAAGGTCGATGTCGTCGGTTTTTTGTAAAG
30 TTCGGCGTAAGTATTTCATTGCCGCGCGGCTTTTCGCGCAGGGACAGGCTGCGTTGTTGCGG
CGCATATGCGGACTGATAGGGCATGGGCGCGGTTTTGCCTGATGAACCAAGGCATTGTG
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35 GAACACAAGTTGGTGCACCTGCTGACTGTGCGGGAAGCGGATTTCCGTTTTGGTTCGGGTG
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TGCCTTGTGCAATACGTGCGGATGCGCTGCTTGACGGCGTGGAGCATCACTTTGTGCGG
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40 CGTCTGAAAGTCTTCGCCGACAATGGCGGCAATCCGTTTCATGCAAGGCTTTGTGCAGGGAG
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45 ACTGTCGTTCTGACGGCTGGTCAGGGTCAGGCGGCTGACGGAGGCGATGCTTGCCAAACC
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55 CTTATACCTATTACCAAGACTGAATCCGCCGAAATGACGACCCATCTGTCCAATGTGCGA
CCGGACCTGCAAAACTATTTGAACGCCATCGGCGAACCCGAACATCCCGTTTTGACGCGG
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5 GTGGCACATAAAATCAGCCTGCACCTGCAACCCGCATTGCTGACATTGGATGATTTGATT
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25 GGCGCGCGGCATCAAAGCCATCATCGCGGGTGCGGGCGGCGCGGCATTACCCGGTAT
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GTTTCAGACGGCATTTTTGCGAACAACCTTTTTATGCCTGTTCTTTTTGCGCATTTTTTC
TGCCATTAGTTTCGTGCAGGGTTTTCTTCGCGCGTTTCATCGGCACGCGGTTTTGCGTCCA
35 ACCCAACTGTTTGCGCGGGGTGAGGTTGCGGAACTTGGTGGCTGCCAACCGAAGGCGCG
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50 CGGTTTTTCGCTGCCATTTGGACGATGAACCTGCCCCAAGTCGTTTTCTACCGCTTTAAT
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CGGGGTTTTCTGCCAGTGCACTTTCACGCCCAACTTAGTCAGGTTTTCTCCAGCTGCTC
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55 GCTTTGCAGCTCTTCTTCGTCGGTCAAAACGGCTTTGCGTTTTGGTCATCAGCATATCCAT
CGCGGTACGCAGGCTTTTGCGCAAGGCTTGCTTGAAGGGAAATTGCGGCGTTTTGCTT
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TCGGCAGGGGAAATGTGGTCGGGCAGGATGGCGAGGATGACCAAATCGCGCGGGCCGTGC
 GCGCCGTAAGCAAGCGTCAGTTGGATGTCTGCGGTTTTGGACGGGCGGAAATCAGGAAT
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 5 TTGTACATCTTGACGTATCGAACAGGCAGAAATGCACGGGCGGAACGAGGCTTAAAGTA
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 10 GCGGCAGCCCAATGTTTCAGACGCTCAACTTCGCTGCCCAAGAAACACCCATTTACGG
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 TATGTTTCGGACGCGGCATATCCGGCTCGTCTTGCGGATTTGCCGCCGATGTTTCATCA
 15 TACACGAGCGCGCTGATGATTTCCGGTTGCGCCGGTTTTCTTTACGCGCGGCGACTT
 TGTCTGTTACCATTGCGCCGGAATATCGGCTTGTTTGACGGAGAATGTCCCGCCGAAGC
 CGCAACATTGCGTTTCGTGGTCGTGGACGATGCGTTCGACGTTTTCCATACCGTCAATCA
 GTTGCCAGCCTGAAAGATGGACATTCATTTCCGCGCGGGCGGCGCAGGAAGTGTGAACGG
 CGACTTTGAGCGGTTTCGCCCTTGCTTCGGGTTTGAACCGATGGCAAGCAGGAAATGGG
 20 TAAACTCGATGATGCGGCCGGCGCAATCCACAGCCCTTTCCTCGTACTCGCTGCCTTTAA
 ACAGCGTCGGCCAGTGGTGTTCATCATGCCGCCGACGAGCCGGACGGCACGACGATCG
 GCCAGTTTTACGGGAAAAGGTCAGTTGTGCTTTGGCGACATCGAAGGCTTCGGTCGGAT
 GCGCCGATGAATAGGCAGGCTGCGCCGACGAGCTTTGCCCATCGGGAAATGGACGCGTA
 TGCCCTGCTGCTCGATTAGGGTAATGGCATCCATG

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 49>:

gnm_49

TTTTACAAGATGCCAAGAGTCATCTGTCAATTTCCATCTCAACTAGCACATAACCAGGATA
 TGACTTTCTTTCACTAATAGTCTTACGACCATTGCGGATATCAACAACTTTCTCTACAG
 30 CACCAGAAATTTGTCCGAAATATCTCCCATCTCCTCACGGGAATGCGCTCTTCCAATAT
 TCGTTGGACATTCTTCTCAAACCCCGAATACGCCTGTACAACATACCATTTTTTCGACAT
 CTCAACCTTCCCTTCTCAGCAATACATCAAAAAATAACCACGAAATTGCTGTATCTGCCG
 CATAGATAAATATAGAAAGCACAGCAACAAACACTATAACAAATACAGTCATTCTGACAG
 CATCTTCACGCTTAGGCCAAACACCTTTTTGAATTCGGACCAAGAAATTTGAGAAATATG
 CAAAAAACCTTCTTACCAGGAATAGATGCAGATTCTTTATCTTGAACAACCAGTTGAT
 35 CCACCTTAAAGTTCTTTTTTCAGGCGTATGTTCTGTCAATATTATTTATCCATCATAGCA
 TCTGTCTATTCTCAATCCATGTAAATGGCAAGAGAGTTTACTAAATAACAAATACAAAAA
 AATTAACCGACACAAGGCCGGTTAATTTTTTATTTGGCAGGCCAAGAGGGTCTCGAACCC
 CCAACCTCGGTTTTGGAGACCGATACTCTACCAATTGAGCTATTGGCCTCTAACTTAA
 GCGATAACAGAAGAAACCACGCCGCCACCGTACGGCCGCCTTCGCGAATCGCAAAG
 40 CGCAGGCCTTCTTCCATAGCGATAGGCGCAATCAGTTCTACGGTGATGGTTACGTTTTCA
 CCCGGCATTACCATTTCTACACCTTCTTCCAAAGTAACCGCGCCGGTTACGTCGGTGGTA
 CGGAAGTAGAATTGCGGACGGTAGTTGGCGAAGAACGGAGTGTGACGACCACCTCTTCT
 TTGCTCAGTACGTATACTTCTGCTTTGAATTTGGTGTGAGGAGTGATAGTACCGGTTTA
 GCCAATACCTGACCGCGTTCCACGTCTTACGTTTGGTACCGCGCAGCAATACGCCTACG
 45 TTGTCGCCCCGCTGACCTTCGTCCAGCAGTTTGGCGAACATTTCAACACCGGTACAAGTG
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 GGCAGCAGGAACGGTTTGTCACGGCTCGCTCGGGAGTCGGGATGTAGCTGTCCAATGCG
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 50 GAACCTTGTAACATCGGGCAGTCATCGCCGGGGAAGTCGTAGCTGGACAGCAGGTCGCGG
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 AACACGATGATGTAAGGTACGCCTACTTGGCGGGCCAGCAGGATGTGTTGCGGGTTTGC
 GGCATAGGGCCGTGCGCTCGGAACATACCAGGATTGCACCGTCCATTTGTGCGCGCCG

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5 GTAAATCATGTTTTTAACGTAGTCGGCGTGCCCCGGGCAGTCTACGTGTGCGTAGTGGCGG
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10 TTTACGTGCGGTTTGCTACGTTTCAATTTTTCTTAGCCATGGCAATATCCTATATATCT
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25 CAGCCAATCGGGAATATTTCGGCAGCGTACCCGCTCGAGATAGACGAATGCCCGGGGGTT
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30 GAGTGCGCCGCTGCTCCGAAGAGATCAAAACCGTTTACCCGTCAAATCCTGTCCAG
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35 CGGTACAGCTTTCGGAGCAGCTCGATTTCTTTGTCTTTTGTTCACATTTCTTTGCAGT
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40 CCGCATATCCTCCTGGGACCATTTATTCAATTCGCGCATCAGGCGGATTTTTCTGTGGG
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5 CCAGCCGATTCTTTTTGTGGGCAGACTTTTCTACACCCAGCGTTTAGTGTTTGTAT
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45 TCTACGGTAATTTTCGTCGCCCGGAATGTGCATGAGCGCGTGGATGATGATTTCCCGCTGT
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55 TGCCGTCTGAACGCGAGTGTGCGCTTTTCAGGTATTCCTTATTTATAGAATATGATGA
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CCAGTGAGCGCGCGTAATACGACTCACTATAGGGCGAATTGGGTACCGGGCCCCCCTCG
AGGTGCGACGGTATCGATTACAAAAAATAGGTACACGAAAAACAAGTTAAGGGATGCAGT
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25 GTTCAAAGCTAATATTGTTTAAATCGTCAATTCCTGCATGTTTTAAGGAATTGTTAAATT
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ACTTCTGTTTATCTTTGTGTGATATTCTTGATTTTTTTCTATTTAATCTGATAAGTGAGC
TATTCACCTTTAGGTTTAGGATGAAAATATTCTCTTGGAAACCATACTTAATATAGAAATAT
CAACTTCTGCCATTAAAAAATATGCCAATGAGCGTTTTGTATTTAATAATCTTTTAGCAA
30 ACCCGTATTCCACGATTAAATAAATCTCATCAGCTATACTATCAAAAACAATTTTGCCTA
TTATATCCGTACTTATGTTATAAGGTATATTACCAATATTTTATAGGATTGGTTTTTAG
GAAATTTAACTGCAATATATCCTTGTTTAAACTTGGAAATTATCGTGATCAACAAGTT
TATTTTCTGTAGTTTTGCATAATTTATGGTCTATTTCAATGGCAGTTACGAAATTACACC
TCTGTACTAATTCAGGGTAAATGCCCTTTTCTGAGCCGATTTCAAAGATATTATCAT
35 GTTCAATTAATCTTATATTTGTCATTTATTTATCTATATTATGTTTTGAAGTAATAAAGT
TTTGAAGTGTGTTTTATATTTTCTCGTTTATTATAACCCCTCTTTATTTTTTCTCCTTAT
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40 GGTTTAAAGCTTAATTACGAAGTAAATAAGTCTAGTGTGTTAGACTTTAATGTTTTTTT
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50 CTCAGGGTATTTTTAGCCAAGGCAATCAATTTTTTAAATGTATAAATCTTTCTCTTT
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55 CAATGGCCTTGAAGCAATATTTAATTGCGCATTCTGCTTAAAGAACCTTTTTAACCAACCC
ATTTCCAACCGATAAAATTTACTGCGTCATAATTTGATGCATATTCTTAATAAAGTAATC
ATCAATATGAAAAAAAATTGCTTGGTCTTTATCTATCCCTGATTCTAATAACTGTCGA

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TTTGAAAGAATGTTTTCTCGACTTTTGTGGATATAAATATCAATTTGAGCATCTTTTATC
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5 GATATCAAATATACTTAACCAAAAAATCTGAAGAAATCTACTGCTACTTCAGGGATAAT
TATTTCAATTAAGATTTTACAACCATATTATCAATCTATCAAAGTATTTTATAGTATTTTA
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10 TATCCGCGATCGTGAGATTTTGCGCCGATTTTTGCGGAAAACCGCATTGATTCCGTTGAT
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TAATAATGTTTCCGGCAGCTTGGTGTTGGCGGAAGAAATGGCGCGTGCGGGCGTGTTTAG
CATTGTGTTTCACTTCTTCGGCGACGGTTTATGGCGATCCGGGCAAAGTGCCTTATACCGA
GGATATGCCACCGGGGACACCACCGCCTTACGGCGCATCGAAATCGATGGTTGAGCG
CATTCTCACTGACATTCAAAAAGCCGATCCGCGCTGGAGCATGATTTGTTGCGTTATTT
15 CAATCCGATTGGCGCGCATGAAAGCGGCTTGATTGGCGAGCAGCCAAACGGCATCCCGAA
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TGGCGATGACTACCCTACCCCGACGGCACGGGGATGCGTGACTATATTCATGTGATGGA
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AAAACACACATTCTGTCTGCTATAATCTGTTTATATTTTTTGGCTATCCTCTGAAATTTA
25 TGAGAAAAATCCTTGTTACCGGGCGCGCGGGCTTTATCGGTTCTGCCGTTGTCCGTCATA
TTATCCGAAACACCCGGGACGCTGTGCTCAATGTCGATAAGCTGACTTATGCCGGCAATT
TGGAATCTTTGACTGAGGTAGCCGATAATCCTCGCTATGCTTTGAACAAGTGGATATTT
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TGGCGGCGGAAAGCCATGTCGACCGCTCTATCGGTTTCGGCAGGCGAGTTTATCCAAACCA
30 ATATCGTCGGCACATTCAATCTGCTTGAAGCAGCCGCGCCTACTGGCAACAAATGCCGT
CTGAACAGCACGAAGCCTTCCGTTTCCACCATATTTCCACCGATGAAGTCTATGGCGATT
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35 TTGCATTGCGGATTCTGAACGCGCTTGACGGCAAACCGCTGCCTGTGTACGGCGACGGTA
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40 ACGCCGTGACGCGAGCCAAAATCAGGCGGGATTGGGCTGGCTGCCTTTGGAAACCTTCG
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TATTGAACGGGACGCTATCGTTTGGAAAGTTAGGTACTGGAAAATAGTTTTAGACGGCA
TCCCGACGCAATGCCGTCTGAAAACCCATCGCAAAGGAAGAAAGAAAAGATGAAAGGCAT
CATACTGGCAGGCGGACGCGCACGCGCCTTACCCCATCACGCGCGGCGTATCCAAACA
45 GCTCCTGCCCCTGTACGACAAACCGATGATTTATTACCCCTTGTGCGTTTTGATGCTGGC
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CGGCTTGGCACAGGCATTTATCATCGGCGAAGAATTTATCGGCAACGACAATGTTTGCTT
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50 AGCGCAAACGCGACGGCGCAACCGTGTTTGTCTATCAGGTCAAAAACCCCGAACGTTTCGG
CGTGGTTGAATTTAACGAAAACCTCCGCGCGCTTTCATCGAAGAAAACCGCAACGGCC
CAAATCCGATTGGGCGGTAACCGGCTTGATTTCTACGACAACCGCGCCGTGAGTTTCGC
CAAACAGCTCAAACCGTCCGACGCGCGCAATTGGAAATTACCGACCTCAACCGGATGTA
TTTGAAGACGGCTCGCTCTCGTTCAAATATTGGGACGCGGTTTCGCGTGCGTGGACAC
55 CGGCACCCACGAGAGCCTGCACGAAGCCGCTTATTCGTCCAAACCGTGCAAAATATCCA
AAACCTGCACATCGCCTGCCTCGAAGAAATCGCTTGGCGCAACGTTGGCTTCCGATGA
AAAACCTGGAAGAATTGGCGCGCCCGATGGCGAAAAACCAATACGGCCAATATTTGCTGCG

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CCTGTTGAAAAATAATGTTTGAGGCCGTCTGAAACTTTTCAGACGGCCTTTAGATGAAA
GATAAAAAGATGAACATCATGATACCGCCATTCCTGACGTAAACTGCTTGAGCCCAA
GTCTTCGGCGACGCGCGCGGCTTTTTTATGGAAACCTTCCGCGACGAGTGGTTTTAAACC
5 CAAGTCTGCGAACGCACCTTCGTGCAGGAAAACCACTCCAAATCCGGCAAAGGCGTATTG
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GGCGAAATTCTGTCCGCAGAAAACAAACGCCAACTGTGGGTACCCGAAGGTTTCGCACAC
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10 CCTGAAGCCGAACAGGTTTAAATATGGAACGACCCGACAGTCGGCATAGGCTGGCCGCTT
CAAACCGCGCCGCTGCTGTGCCCCAAAGACCTTGCCGGCAAACGTTGGGCGCAAGCCGAA
AAGCTCCGCCTTCCGCTTTACCGATAAAAAATGCCGTCTGAACGTTTCAGACGGCATT
TTCCGACAGCCTACTTGCCCGCCTTCAGTACGCGCTGTGCAAAGAAAAACATCCCGGTAA
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GCGGCGCATCCGAGCCCGCTTGGTCACGGAGAAGGCAATAATAACGCCATAATCACAC
15 CGATCAGGCTTTCACCGACAATCAGGCCGCGGAGAACAGGTTCCGATGCGCTCGGCGT
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CGACCGCAAGGACGGGCGAGGGCAAGTTTGCCGCTGATGATTTTTTCAACACCAAATCGA
CGACGATTAATACTGCTCCAATCACGATACCGGTAAAGATATAGACCCATTCAAGGTTGT
20 GGGCGAAAATGCCGACGCGATGGTCGTATCAAAGTCGCTTGAGGGGTGCCAAAGCCT
GCGCCGCGTCCATGCTTTCGCGCGGCATTGCGCCGGTAAAGCCGTAGGCTTCGTAAAGCA
GTTCCAACACGGGCGAAATAACCAGCGCACCAACGATACAGCCGATAATCAGGGCGACTT
GCTGCCGCCAAGGCGTGGCTTTGAGCAGGTAGCCGGTTTTCAAGTCTTGCGAGTTGTCAT
TGGAAATCGAAGCCACGCAGATTACTGCCGAGCCGCAAACAAAGTCAGTGCCAGCAAAA
25 ATTTGCGGTTAGCCTCATCCGCCAACAAACCTCCGGATTGCGCTACCAGCAGCAAAACCA
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CCAAACCTGCCATATAACCGCAGGCGCGCGGACCAAAAGCCGATGACGGAAGCCAAAA
GCGCCGCAACGCAACCAAAAGCCAAAGCCATGCCGCCGTAATGTGCGAATCGCCGATAA
AGTGGTAAAACGACACGCCTAAACAAACATCATCGCCAGCACCCAAAAATCATAGCCT
30 TAGGCGACAAATCCTGTTGCGCGCTTCCGACGCGGCGCACCGCCGCCAAACTCTTGA
ACGACATCTTCATGCTTCCACCATCGGCTTGAGCAGCATCAACAGCGTCCAAACCGCCG
CAATGCCAATAGTCCCCGCACCGATAAAACGCACTTTCTCCTTCCACAGCTTCATCGCAA
ACGCCGCCATTTCCATATCGGAAGGTTGCGGAATGTGTGAGGAGAAATACGGCACGGCAA
TGCCCCAAGCAATCGAAATGCCCAACAGGATGGCGATACCGCCCGTCAGTCCGACCAAT
35 AGCCCGCAGCCAAATGCCAGTGAAGGCCATCGGCAGCTGGAATAACGCGTACCGC
TTTTAAACCAATAACTCGCGCTGTGCGCAATCACGCGCAGACCTCCGGCGCAAAAGCTCA
TCAATCCCGCCAACGCACCGCGCGCGCCAGCTCTTGATGCCGTGCTGCCTGACGGTTA
TCCCTTCTTCATGACCGCCACTTCAAATTTTCAAGCAGCCGCCACACCTTCCGGATAA
GGCAAATCGCTTTTACCACCATTGCGTAACGCAGAGGAATGGTGAAATACCCCCAAA
40 ATCCCGCGCGCAATACATAAAAGCGTCGTCTGCCAGAACGGGAACCGCTCCAGTAGCCC
GCCATTACGCAAACCGGCGAGGACGAAGATGATGGTCGAAAGCGTACCCGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 50>:

GNMAB22R gnm_50

45 AATGAnCGGCGGCAGGCTGGCGACCGCGTATCCATACTTTCCGTCATGATTGAAGACAAT
CCCACATACCGCAGCTTTGGGCGCAATGTTTCGATTTTnCTCTATCCGTTCCGTATCG
AAAAACAAGGGGCTGTACTAGATTAGCCCTAAATCCCACACCAATCCCGCAGATTTTAA
GCTGTTGAGACGGTGTGCCGAAGTTAAATCGAAATTCGCATTCTTTCAAGAACAGCGGGA
AAGATTTACGATCGATTCCGTTGTATTTTCGAAGACGCGTTTAGTCTAGAGTCTGTATA
50 TTACATTATTTTTAGGGTCTGCTAGCCAAATTTCTGTTCCTTCATTATTTTATCTTCTG
AAAGAAAATTATTTTTTCCATGCTATTAATATTAATGATATGATTTTnATTTAAATAA
ATGTTTn

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 51>:

gnm_51

```
5  ACAATTTCTCCTGCAGCGCCGATGATGTTTTTAACGATATCTGCAGTGCCGTTGAAGGCT
   TCGGCGGCATTGCCCCGATCTGTCCAGCTCGGGGCTGTATCGGGTGGCGCGTTTGAATCCG
   TCGCCTACTCCTTGCCTCAGCATACTACCGGCATTGTGGAAACGGTCGGCAAGCCGTTGT
   CCGGTGCTGCGGTTGTGCGTCAGGTTGAGGCGGATATTTTGGGCAACGCCTTTTATGTCG
   TAGCTGTATATATCCCTCGCGCCTTTGGGAGCGGGATAGCCGCCGCCCTGTGGCCCGTCA
   TAGCCGTGCGCGGGATGGTGTTCGTATCCGTCCCAATGGATGCGGTAAAGGCTAAATCCG
10  TCAACGGGACTACCGGCTTCATCAGAATCGGAATGTGAGGCATGGTTGTCGAAGGGGAA
   TGGACTTCGTGCCCCGTGATCGGAAAAGCGGACAATGTAGCCGATATTTCTTTAATGGCC
   GCCTGTTGAATCATCAGGTTGCCCACTGATGGCTTTGTATTTTCCCAATCCGATATGr
   ccGaCTGCGCTCGGCAAGTTCCCCCTGCTGCCGAATAGGTGGTATTTCCCGTCGGGTTT
   GAAATGCTGACGGTCGAGAACCTGCCGATAAAAGAATCGTTTGCCAAATCTGAGGCGTG
15  TGCATGCATCGGCAGGCACACTGC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 52>:

gnm_52

```
20  GCTTGCATGCCTGCAGGTCGACTCTAGAGGATCCCGAAACGCCGTGAAATCGGTCACGGC
   CGTTTGGCTAAACGTGCATTGTTGGCCGATTGCCGAAACCTGAAGATTTAGCTACACC
   ATGCGCGTGGTCTCCGAAATTACCGAATCCAACGGCTTCTCTCTATGGCTTCCGTCTGC
   GGCGGCTGCCTGAGCCTGCTGTCTGCCGGCGTGCTTTGAAAGCACACGTTGCCGGTATC
   GCGATGGGTCTGATTCTGGAAGGCAACAAATTTGCCGTCTGACCGACATTTTGGGCGAC
   GAAGCCACTTGGGCGATATGGACTTTAAAGTGGCCGGTACGACCGAAGGCGTTACCGCG
25  CTGCAAATGGACATCAAAATCCAAGGCATTACCAAAGAAATTATGCAAATCGCTTTGGCA
   CAGGCCAAAGAAGCGCGTCTGCACATCTTGATCAGATGAAAGCCGCCGTTGCGGGCCCG
   CAAGAGCTGTCCGCACACGCCACGCTTGTTCAGATGAAAATCAACCAAGACAAAATC
   CGCGAAGTTATCGGTAAGGGCGGTGAAACCATCCGTTGATTACCGCTGAAACCGGTACG
   GAAATCAATATTGCCGAAGACGGTACGATTACCATTCGCCGAACCACTCAAGAAGCCGGC
30  GATGCGGCGAAAAAACGCATCGAGCAGATTACTGCCGAAGTGGAAGTGGGCAAAAGTGATC
   GAAGGCACTGTGGTGAAAATCCTCGATAACAATGTCGGCGCGATTGTGACGCTGATGCCG
   GGCAAAAGACGGTTTGGTACACATCAGCCAAATCGCCACGAGCGGTACGCAATGTCGGC
   GACTACCTGCAAGTCGGTCAGGTGGTGAACGTGAAAGCATTGGAAGTGGACGACAGAGGC
   CGTGTCCGTCTGTCCATCAAAGCCCTGCTGGACGCGCTGCCCGTGAGGAAAATGCCGCC
35  GAGTAACGCTTAGGGTGAAAGTGCCGTCTGAACAGGTTTCAGACGGTATTTTTTACGGGT
   ATCGGGAATGAATGGGGCTTACAGCCACAGGACGGCAAGTTTCCATAATGCCATAATGA
   TACGGATAATCCCGTACACAGGCGGATATATCGGTTTGCATGATTTTTTTCAGTTGCAG
   GGAAAAAATGCCGATTGCTAAAAGATTGGGCAGCGTACCCAGTGCAAAGGCAAGCATATA
   TAACCCGCCCGTTGCCGCACCTACCGCTTCCAGCGCGTAAAGCGACGCGCTGTAAACCAG
40  TCCGCACGGCAGCCAGCCCCATAATATTCGACCGCAAGGCAGGCGGGTATGGATTTTAT
   GGGTAACAGCCGGTTGAGTATCGGGTTCAGGTTCCGCCATATCGGTTTGCCGATTTTCTC
   GATTTTTTGCCGCCAAGGAAGAAATACCGCTCAAGTATAAGCCTAAAAAGAGCAGCAGGAG
   GTTGGCGGCGGTGTATAAAATATCTGCAGGACGCGGGTTTGGTCGAGTGAAACGCCGAC
   CTGTCCGATTAATCCGAGTATCAGGCCGATTGCCGTATAGCTGCTTACCCGTCTGTGTT
45  AAGCAGCAGGATCAGCCAAAAGCGGTGATATGCGGGGGGAGTTGGAGCGCAAACGCGCT
   GCTTAATCCGCCGCACATACCGATGCAGTGCCTTCCGCCGAAGAAACCGAGTAGGAACAG
   GGTGAGGAAAGTGATGTCTGTGTTTATAGGCAGTTTGAAGTCAAATATTTTTCGGGAAAA
   GGGATGATTTGCGGCAGTCCGGCACATAGGATCCGCCGAGGGCATTGCCCGTGCTGTAA
   AGTCTTGAATAAGGATGCAGTTTGACCCCTGTATTTGATAATTTGTAAAATCCGCCCT
50  TTACTGCGCCGTGCGCGGGTTTGCCGTGTGCGTCAAATAACAGGATGGTGGGTTTGA
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GATGCGCGCAATTTGAAACGGCCGGGTTTGCCGGTATGTTTCGGGTGCAGGCGGCAAGGA
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AACAGTATAATGGCTGATTTAATCCTCAGGCGCGGGAGATGGAAGCATTTCCTTTCGG
5 TGCGGGGGATTTCCGATTCCGAAGCAACAGACGATACGGGATTTCCGAACAATATGAACA
CTTTGAAATTTACCAAAATGCACGGTTTGGGCAACGATTTTATGGTGATTGACGCGGTCA
GTCAGGATTTTACCCCGAGGACGCGCGATTGCGGAATGGGCGGACCGCTTCCGGGGCG
TGGGCTTCGACCAGCTTTTGGTGGTGGGGCTTCGGAAACCGAAGCGGTGGATTTCCGTT
ACCGTATTTTCAATGCCGACGGCAGCGAGGTGCGGCAATGCGGCAACGGAGCGCGTTGTT
10 TTGCCCGTTTGTGTCAGACAAGGGTTTGACCGATAAGAAAGAAATTTGTGTTGAAACGG
CAAATGGCGTTATTTTCCGAAATGTCCGATAACGGTATGGTTACGGTCAATATGGGCA
AACCGAAGTTTATGCCGCTGTAATACCGTTTGTCCCGAATCGGGCGAGGGGGATGATG
CCTGTATTTACGGGGTGATCTCGAATCCGGCATTACGCTGTGAGCTGCGTCAATATGG
GCAACCCCATGCGGTGATTGTGGTGCATGACGTGGAATGCGCGCGGTGCGCGAAACCG
15 GTTCGCTTATCGAACCGCACAGGCAGTTTCCCGAACCGGTCAATGTGCGCTTTATGCAAG
TTGTGCGCCGAACCGCGATTGCTTTGCGCGTGTTCGAGCGCGCGGTGGGCGAAACCCAAAG
CTTGCGGTACGGGCGCGTGTGCGGCTGTGGTGGCGGGTATCCGTCTGGGGCTGTTGGATG
AAGGGAAAACGGTAGAGGTGGTTTTGCCGGCGGGACTTTATATATCGAATGGGCCTGCG
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20 TCTGATATTCGCGCAGGAATGTTGCAATGGTTTTGGGCGAGTATTATGCTGTGGCTGGG
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CTTGTTTCATCCCCATTTTACCTGACTTTGGGCAGCATATTTTTTTTCATCGGGCATTG
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TTTTGCCGTGAGTAATGTATCGATGACGCTTGTCTTTGTGCGGAATATGTGCGTTGGTGCA
25 TTATTGCTTTTCCGGAACGGTTCAAGTGTGTTGTGTTTGCGGCACTGCTCAAACCTTATGC
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CCGCTGCGGTATAGACCGGCAGCCGCGCTCAACGTTGCGCGGCTCGCAGCTGCGACTCGG
CGGGTTGACGGCAGCGTTGATGTCAGGTCTCGGTACTGGTGTCTGCTGCTTTCAGAAATTGG
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30 TGGTTTTTTAGGCGGCATAGGTTTAGGATAAAGCCATATCCGAAATTTGTTTATGTTTCG
GCGCAATCCCTGCAATCGGACAGGATGCCTATGGGGATTGCGCCTTACTGTGCAAAACC
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CGCCTTTGGTCAAACTGAACCGTCTGACCGAAGGTTTGAAGGCAGAGGTGCCCGTGAAC
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35 TGCCGAAAAGCGGGCAAAATCAACAAAACACCGTCATTGTGCAAGCAACAGCGGCA
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CGCGCATCCCGACACTTATTTATGCCGCGCCAGTTCGACAATGAGGCAAAACCCGAAGT
40 CCACCGCAAAACAACCGCCGAGGAAATTTGGCGGGATACGGACGGCAAGTCGATGCTTT
CGTTGCCGGCGTGGCACGGGCGGTACGATTACCGCGGTGGGCGAAGTGTGAAAAATA
CAAACCGAAGTTAAAGTGGTTGCCGTGAGCCTGAAGCTTACCCGTATTGAGCGGCGG
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45 CGCAATAGCGGAAAAGAAGGCATTTTGGTGGGTATTTCTTCCGGTGCGGCGGTTTGGAG
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50 GCATCGCTTGAGGGAATATTTTTATAGTGGAATTAACAAAAATCAGGACAAGGCGACGA
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55 ATGGCGGCATTCTTGCCGTGCGGCGGGCAGCCGTATGGGGAAGGGAGGGGATATTGTTGGT
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GGGCGTCTGATTGTGATGATCCGTCCCGTCCGTTTCGTATGCAATCGCATTTTGGCGGTT

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GCTGATTTCGGTGTTTCGTATTTTGGTTTTTAGCACGGTTTTTCAGGCAAAAATCCCAAA
AAACAGGAAAACCGTCCGATATGCCCTGACGGCGGGCGTGTTTCTCGCTTTCGATTGGC
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5 GCAAATCTTTTTCTTGTTCGGCAATCGGTGTTTTCTTTTTTCGGCGAGCGTTTGAGCGGGCT
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10 CGTGGTGATGCAGTGCTTCGCGTGGGCGATGGTTGCCTATGCGATTCCGCTGCTTTCGCT
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15 AGACTCGCCTGTAAAAGTGAGGAATAGCAAATGCCGTCTGAACTATTTTCAGACGGCAT
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CAAAATGAACATTGCCCTGGCGACAACCGCTTGTTCATCCACAAATCCCAGTAGCGCGA
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20 ATATCCGTTTTTCAGACATAATATCGGAGGTATATTGCCCAATACGGGCAGGGAAACGGC
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50 AAAATTTCGTACTCGGCGGTATTGCCGCATTGGTTTTGGCGGCCTGCGGCGGTTCGGAAGG
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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 53>:

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gnm_53

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5 CTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAGTGAATCGGTTCCGTACTGTTT
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 10 AAGAAGGGCAGCGCATCGAGCGGGTCAAAATCACCAAATTGCCCGAAGAATAAGCATTCA
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 20 GGCAGGAGCGCATCAGGTCAGAACGTCATTCCCGCGCGCAATCCGCGCGGCGAACAGATT
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 25 TGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTGCGCTTGT
 CCTGATTTTGTAAATCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 54>:

gnm_54

30 CCGACATGGAAACCATCACCATCCCTAAAGAAAATTTGACGCTTTGCTAAATCTCGCAA
 GAACCGCGTGCCTTGACGAAAATTTTATCCAAAAATAATTACGGAGCATCCACCA
 TACCAGCAGCCGGCTTTGCCGCACTTAACGAGTTTGAATAGCCCGCTCCACCGTGGAAT
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 35 CCTGCCTCCAAGCAATACCGACCGTAATAGCGGCTGGTTAGACCGTGAATTAGGCGAA
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 40 TCAAGCACGTTGAAAATGGTCAGATCCAATACTCAACACAAAAGGAAATCTAAAATG
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 45 ATTGATGCCGATTTCAATCAGGGCGTATTGATGTCACCGCGTCATCAATGGCCATACG
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5 ACCTCAGAACAGGGGAAAAACGACTACGGCTACCCACCGAACGCTACGGATGCGACATC
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TTGTGCTCTGCCAATTGCCCTTAGTTTTCATGGCATCAATCGCAAATCGCCATCCAC
AGCTGATAGTGTATGGTTTCCCATGTAAAGATTATAGTTTTTCTGTTGCTGTCCGAATC
AATGGTCGGATTTCATCAACATTCCTCCATCAGGTTTTGCGTGATTTGGCTGACGATGGT
5 TTGTGTCTCCGCCCTCCCTGACGGAAGCGACTGTCCGCAACTGTACAGACAATAGTGCCAA
AATACCGATGGTCAGAACGAGCATAGCAACCAAGACTTCTATCAGCGCCATACCGGACTG
GGAATCTTTTCAGGCGGAAGCAATCATTATTCTTCATATTCATTTTTAAACTGAACTGT
TATTTATACTGGCACATAGTACGCCGATCACCCCTAGGGCAAACCTTCGACCCTGCCGCTG
CTGTTAATCAAAACCACCGCCGAACGGAATTTCTTTTCATCGGCAGAAACCGCCTTCGCA
10 TCTGTCAACACGATTTGGATATAACCGTCAGAATAAAAAAGCTGGATTGTTTGTAAAGA
TGCTGGTCTTTTCGTATAACCGAACGTCCTGTTTGGATTGAATGTCCAAACTACACGGTCG
GTGGTCGGCTGAGTCTGACCGAAAGCGATATGGTTGAAGGCATAATTAATCCGCTTATCA
TTGATATCATCATTCAATACCACACTGCGGAGAAGAATCCTCCGTATCATTGTCATAT
CCCTTATTCCCGTTTTTGTGCGCGAAAGCCAACATTCCCTGCCCTTCTTGCCGGAGTCA
15 CATTTATTGTTGGGCGTACCGTCTTTTTTAACTTGAACAGGACAGATATAGACAGGGAGA
TTGAGCCGGACGGCTTCGCCCCGAGAAACGCAAAAGGTTGGCAATCCGCTCCGCGTGA
CTGGCAATGCGGCGGATGCAATCCATTGGCTCATATTGGGGAGGGCTATCATCGCCATA
ATGGCTGCAATGACCATCACGATGAGCAGCTCTGTTAGCGTGAAACCTGTTGTTTTCTGT
GTACACATAAGCAATAGAACGTTAACTGGTAATGTATCGTGGATTAAATTCAAACAGTA
CGGCGTTGCCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTCAAGCACCAAGTG
20 AATCGGTTCCGTACTATTGTACGGTCTGCGGCTTCGTTGCCTTGCTCTGATTTTTGTTA
ATCCACTATATTTTCAATTATATGCGGGCTGAATGCAAAAAATGCCTCAAGACCGCGTTTT
ATTTTTTAGGGCAATCTCTCAGCATGATTTTAAACGATTTTGCTGATTTGCGCTAATAA
ATTTTTATATAGCCATTTAATCCTCTATCTTGCCTCCTCGGGAATATAGGCAGCATTGT
CGAATTTGGTGAATTGTCCCGTCCATGTGAGGAAGATTTTACCGACGGGACCGTTGCGGT
25 GTTTGCCGATGATACATTGCGCAAGGCCTTTTCATGGGTGAGTCCTGGTTGTAGTATTCGT
CGCGGTACATGAACATAATCAGGTCGGCATCCTGCTCGATTGCGCGGACTCGCGAAGGT
CGGACATCATGGGGCGTTTGTGCTGACGCGATTGACCGTGCGGCTCAATTGCGACAGGG
CGATGATGGGGACTTGCAATTTCTTCGCCAACGCTTTGAGCGAACGTGAAATCTCTCCCA
GCTCCGAAGCTCGGTTGTGCGAACGGCCGGATCCTGCCATCAGTTGCAGGTAGTCGATGA
30 CAATCAATCCAAGCTTATTGTTAAATTGACGGGCGAGACGGCGGGCACGGGCGCGCAGTT
CGAGCGCGGTGAGACCCGGGGTCTCGTCGATGTACACGGGCGCGTGGAGAGTTTGACGA
CTGCTTCGTTTCAGGCGACCCAGTGTTCGTCTTCGAGCCTGCCGTTTTCAAACGCTTT
GATCCAACCGTCCGACCGAGCCGAGCATACGCATGACCAGTTGCGCCCCGCCATTTCCA
TCGAGAAAACAGCAACGGGCGAGCCTGCCTTCTACGGCAACGTGTTGCGCGATATTGATAG
35 AAAAGGCGGTCTTACCATAGACGGACACCGGCAACGATAATCAGGTCGCCGGTTGCA
GACCCGAGGTTTTTTTTGTCGAGTTCGATGAACCCCGTCGGCACGCCGGTAATTCATCGG
GATTGTGCGCGAGTAGAGCATATCGATGCGCTGTACGACTTCTTTCAGCAAATCGGGCA
TCTCCAAAAGCCCTGCTTGGATTGCGGCTGCTTTCGGCGATTGGAATACTTTGTTTT
CCGCTCCTCCAAAAGCTGCCCGCGTCCCTGCTTTCGGGATTGTATGCGCTGCGGGCGA
40 TTTCCGTCCCCACTTCGGCGAGTTGGCGCATAATGGAACGCTCGCGCACGATTTTCGGCGT
AGCGGCGGATGTTGGCGGCGAGCGGGGTGTTTTGCGCCAGCGTAATCAGATATTCGAATC
CGCTGCGCTTCCAATTCTTCGTTCCGCTGCAAATCTTCTGAACCGTAATCACATCGG
CGGGACGGCTCTCATTAATCAATTTGGCAATGGATCGGAAAATCAGGCGGTGTTTCATGCC
GGTAGAAGTCTTCACCGGAAACACATCGGCAATCCTGTCCCATGCCGATTTTCCAGCA
45 TCAACCCACCCAAAACGGATTGTTCCGCTCCATTGAGTGTGGGGGCGAGAGACAATGCGC
CGACCTCACGGTCTTCAGACGGCATGGCTGCGTAATCGTTTCATGGTACATCCTATCTGTC
GTGCCGAAATTGCAATCTTCTATTATAGCGTAAAGCAGGTTAATTGGTTTTCCGCACCGC
AAAACAGGTTAGAATACACGGGCTGCCGAGTTATTTGACGCAACACTGCCAAAATACAACA
TTTAAACAATATTACAGGATGACAAAATGGAACATAAGCTGCCGCAACTGCCTTATGAAC
50 TGGACGCATTGTCCCGCATCTGAGCAAAAGAGACTTTGGAGTTCCACTACGGCAACACC
ATCAAACCTACATCAACCACTGAACAATCAAATCAAAGGCACCGAATTTGAAAACCTGC
CTTTGGAAGAGATTGTGAAAAATCTTCAGGCGGCGTGTCAACAACGCGGCACAACTT
GGAACACACCTTCTACTGGCTGGGTTTACGTCCAAAGGTCAAGGCAACCTGCCGGCG
AACTGGCCGCCGCCATCGACGCGAAATGGGGCAGCTTCGAGAAAATCCAAGAAGCGTTCA
55 ATGCTGCGCGGCGGGTACTTTCCGCTCCGCTTGGGCGTGGCTGGTAAAAACCCCTGCCG
CGGATTGGATTGTTTCTACTTCCAACGCCGCTACGCCGCTGACCACTGAAAACACGC
CGCTGCTGACCTGCCAGCTGTGGGAACCGCCTATTACATCGACTACCGCAACAGCCGTC

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CCAAC TACCTGAAAGGTTTTGGGAAATCGTCAACTGGGACGAAAGTCGCCAAACGTTTTG
CCGCCTTGTCCTGATTTTTGTAAATCCGCTATATCATTTCCGGTAGATTTTTGCGGTATT
GAATTCAGTTATTTCCGATAAATGCCTGTTGCTTTTTATTTCTAGATTCCCACTTTCTG
5 GGAATGACGGTTCAGTTGCTACGGTTACTGTCAGGTTTCGATTATGTTGGAATTCGGG
AACTTATGAATCGTCATTCCCGCGCAGGCGGGAATCTAGACCTTAGAACAACAGCAATA
TTCAAAGATTATCTGAAAGTCCGAGATTCTAGATTCCTGCTTCGCGGGAATGACGGAAA
GTGGCGGGAATGACGGGATGTAGGTTTTCTTAACCTGCGTCTAGATTCCCGCTTTGTC
10 GGAATGACGGAAAGTGGCGGGAATGACGGTTCGGGCATTCTTAAATTACCGTGTATC
GCTGTAAATCTTAGAGATGGCGGAATATAGCGGATTAACAAAAACAGTACGGCAAGGCG
AGGCAACGCCGTACTGGTTTTGTAAATCCGCTATAATTGATGAAACGGGTAAAAAAGT
GTTGCCATCGCCTGTTCTTCTTGTCGGATACGCTTAAATAAGACCAGCAAATAAATGGGC
AGGCCAATCAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 55>:

15 **GNMAB42F gnm_55**

TGACCCGGCATTCCCTTCCTGCCTGCGTTGTCGGACGCTTTTTCAAATTCCGATTCCGC
CGTTTCGTTTTTCGGGAACACGATTTCCGCCGAAGATGAGAAAACAAACGTTTACAAG
GTTTTGCTCCACGGCGAACAATTCGGTATCGCCTATCCTGCTTTTGCTGAAAAATTCATG
20 GAGCAGGTTTTCTTTTCTTTGTAATTGTCGGTTTTGACGGCGAGGATGCGTTCCAATCC
GGCAACGTTTCGCATAACCGTTGTTTTCCAAATGGCGCATTCTGCCTTCAAATTGCTTAC
ATCCGAAATGCCGATTTTATACACGCCCTTGATGACGGTTTnATCAGATAGACAATGCC
TGACTTTTCCATATCGATGTTTTTCAAGTGTTTTCGAGCCTTCAGACGGCATCGGATTAT
TTCTATGCCGTCTGAAACCGTTTAAAGTATCAAATATTATCGACACTCTGGCCTGTnAGCG
25 CGCGTTGGATGTTGCGGTTTCATGCGTTTGCGGCGAAATnTCGGTGATGCTGCCGAGTT
TGCGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 56>:

gnm_56

CCGCACTGATTTTCGAAATCGGTACATATATCATCAGCGCGGGCGGCAAACGCCTGCGTC
30 CGATTATGACGATTTTGCGGGTAAGGCGGTCGGTTATGATGACGAGAACTGTATTGCG
TGGCGGCGATGGTCGAGTTTATCCACACTTCCACCCTCCTGCACGACGATGTCGTCGATG
AAAGCGATTTGCGCCGTGGGCGGGCAACGGCAAACAATCTGTTTCGGCAATGCGGCGGCTG
TGTTGGTTGGCGACTTTTTATACACGCGCGCCTTTCACTGATGGTTGCCTCGGGCAGTA
TGCGCGTTTTTGGAGTGATGGCGGATGCAACCAACATTATTGCCGAGGGCGAAGTCATGC
35 AGCTGATGAACATCGGCAATACGGACATTACCGAACGAACAATATATCCAAGTCATCCAA
TATAAAACGGCAAAATGTTTTGAAGCTGCCGCTCAAGTCGGCGCAATTTTGGGCAAGGCT
TCCCCGAACACGAACGGGCGTTGAAAGACTACGGTATGTATGTCCGTACGGCATTCCAA
ATTATTGACGATGTGCTGGACTATTCTGGCGAAACCGACGAAACGGCAAAAACCTCAGCGA
40 CGATTTGGCGGAAGGAAAACGACTTTGCCTTTGATTTATCTGATGCGTCAGGGTCCGAA
CA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 57>:

gnm_57

GGCTGCTGCGAGGAAGATGTCGGGGCGGGTTTGGAAATGTGCGACGGCGGCAGGGTCGGC
45 AATGGCGTCGAAGAAGTGGGTACGCCCCATGCGTTCCAGCAGGAACGGGCCGTTTTTACT
GGCGGACGCAAGGGCGATTTTTTTGCCGTTTGCCCTCAATGCTTCCAGCAGGGGCAAAAT

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5 GCGGGGATACACGCTCTTCGGGTTTACTGCCTGAATCATCTCGACGTAGTTGTCGTTTTT
ACGGCGGGTCAGTTTCGGCGAACTCGGCTTCGCTGACGGTTTTGCCGCCGTGCGCGAGGAT
GCGTTTTGAGCGAATCGTCGCGCGACACGCCCTTTGAGCTGCTCGTTAAACTTGCGGTCAAT
GCTGATGCCAGTTCTTCGGCGAGCTTTTCCATGCGCGGTAGTGGTATTCGGCGGTGTC
10 GGTGATGACGCGTCGAGGTCAAATAGGACTGCAGTGAAAGTCATTTTGCGCCCTCCTTA
TTTTTCCAACGCAACGGTGTGGCTGCCGTGAGCGTGATGTCTTTGCCGTACACCTGCAA
ATCGAGCGACTCGCCTTTGAGCAGAGTGAAGACGACGTTTTCTTTGCCGACGGCGACTTT
AATCAGACGGCGCGGTAGTTGATGTGAAGGCGTAGCCTGTCCACGCACTCGGCAGGAA
CGGTGCGAAGCTGAGTTTGCCGCCAGGTTTTTCAATTGGGCGAAACCTTGGACGATGGC
15 GAGCCACGAGCGGTCATGGAGGTGATGTGAGGCGCTTCGGTGTGTTGTTGATGTT
GTCCAAGTCCAGGCGGGCGGTGCGCTGGTACATTTCCACGGCTTTTCTTCTTTGCCAG
TTCGGCGGCGAGAATAGAGTGAATACAGGGCGACAGCGAGCTTTTATGCACGGTCATCGG
TTCGTAGAAGTCAAGTTGCGGCTTTTTCGTGATATTGAAACGGTCGCTGAAGAAGTA
GATGCCCTTCAATACGTCCGCCCTTTTGATAAAGGGCGAACGAGGATTTGTCCACGA
20 CCATTTTGGTTGAGCGGCAATCGTCGGGCGAAAGCGCGACACGGGCGGATGTCTTT
GTCGAGGAAGCCGTGCTGCTGCACGAATACGCCGAGTTCTTCGTATGCGGACGGTACAT
ATTTCGCGCTGATGTCCGCCCATTTTCCAACCTCGTCGGCAGCAGCTTCAAATCCGGACG
CGGGTATTTCCGCAAGGCTTCGCGGGTGTAGTCCAATACCCATGCGGCGAGGGTGTGGT
GTACCAGTTGTTGTTGATGTTGTTTTCGTATTCGTTCCGACCGGTTACGCCGTGAATCAT
25 GTATTTGCCGTTGCGTTTGGAGAAGTGGACGCGGTCCGCCAGAAGCGGGACACTTCGAC
CAAAACTTCCAAGCCTTCTTTGGCAAGATAGCCCTCGTCGCGGTGTAGTTGGTGTAGTT
GTAGATGGCGTAAGGAATCGCGCCGTGCGGTGGATTTCCTCGAAGGTGATTTCCCATTC
GTTGTGGCACTCGATGCCGTAAACGTTACCATCGGATAGAGTGGCGCCGCAAGCCCTG
TTCGCGCGGTTGTGCTGCGCCTGCGGCAGTTGGTTGCGGCGGTATTCAGCAGGTTGCG
30 GGTAACTTCGGGTTTCGGCCAGTGCAGAGGTAGAGCGGTACGGCGTAGGCTTCGGTGTCCCA
ATAGGTTCGCGCCGCGCTATTTTTCGCGGTAAGCCTTTCGGGCGGATGTTTACGTCGCGC
GTCTTCGCGTAGTAGGTGGAGAACAGTTGGAACAGGTTGAAGCGGATGCCCTGCTGCGC
TTCGTCGCTCGCTTCGATGACCAGTCGCGGATTTCCCAACGGTGCAGCCAGCCTGCTTT
GTGCGCTTCAGCAAGGTTTCAAACGCAACGCCGTGCAATTTTTTCCGACAAGGCGCGGCC
35 TGCGGCTTTCAGTCTTCCAAGCTCTGATAATCGCGGCTGGTGGTAACAATCACGCGTTT
TTCAAAGGTTTCGGGTGTGCTGCCGACTTCGGATTCAAAGAATTGGAGACCTGCCAGTC
GGTTTGGCTGCCGCCGAGGGCTTTGAAGCTGCCGGCAAAGGTTTGTGCGCGTTGACGAT
GAATTGTTCCACGCCGAAGGGATTGGCGACGGTTTGGGCGGCAATGTAGGAGAGACTGTC
TGAACGCCTTTGTCCAATACCTGCCAGAATTTTCTTCGTAGTTGGAGTCTTCGTTTTT
40 CACGTCGGCATCGATGATGAATCGATGCGGACTTGGTGGGTTTACCGTCAACGGATAC
GGCTTCCAGCGGATGACCGCCAGCTCTTTTGTGCGACAGACAGGAATTTGCACACATT
GAAACGCACACCGAATACGGTGAACGAGCGCGCAACACGCCGTGCTGCATATCGAGTTC
GACGGAGAAGCCAGCAACGTCGTTTTTCGCCAAGTCCACTTCCTGCCGTCGACAAAGAT
TTTACTTTGCTGAAATTGAACGCGTTGATGGCTTTGCCGAAATATTTGGGATAGCCGTT
45 TTTCCACAGCCGACGCGGTTTGTGCGGGAACACACGCCGCGATGTAGGTGCCATA
GTGGCTGTGCGCGGAATAGGTTTCTCAAAGCTGCCGCGCATACCCATATAGCCGTTGCC
CAAGCTGGTCAGGCTCTCTGACGCGTTTGTGTTCTTTTCCAGTTTTCGCGAACGCGAG
CGTCCAAGGGCTGATTTCCATGATTCTTGTGTACATTTATGAAGCTCCTGTTTGGATTGA
50 TTTGAGGGAATGGTGAATCTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGC
CGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGTCTCAGCACCTTAGAGAATC
GTTCTCTTTGAGCTAAGCCGAGGCAACGCCGTACCGGTTTTTGTAAATCCACTATAAAAA
GGTCGCTGCAACCGGTGTAGGAAGCTCCTAAGAAAGGGATTTCGATGCCGTAAGCAATC
GTCGCTCCCTGGTATCACCTTGTTCAGACGAATATTGCCGAACCTCGGGCAATTCAGG
55 CTGTGCGGCGAGCGTGCCTCGGTGCGGCGCGTCTGTAACGCCCGCATCGTGCCGCG
GCGAAATCCTGCGGGCGCGGTAAAGATGACCAAGCCATTGCGGTGCTGTATATGCTG
ATACGACGGCGCGCTCCGGCTTGCAACACAGCGCGGGACGGCTATATCGGACGGCACG
CGGTAAGCGTCTGTAACCGGCCGACCCGTTTCGCGGCGCAGGGCGGCAACGGCGGCA
TCCAGCGGCTTGGGCCGCTGAAATCAAATACTTCGAGGTGCTGTGAAACCGTTGAGACG
GGCAGTTTTTCGGCATCGGCCGGCATATGTCGCCCTGCGGAATATGCAGAACCGCATCG
60 TGCAGGCCCCGCTCCAGCCGCCAGTAAATGTGACGCGTCGGGTGCAACACCGGTGTCGCCG
AGCGCGGTGGCGGATAGCTAACGGTAAGCCGCTGTCCTCGTCCAAGCGGTAGGAAATA
TCCAAATCCAATCGTTGGGATAACCGTCGGCCGACTGTTGCAGGCGGTGCGCAGCACC

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ACCGAACGGCCGTCTGCCGCCACCGCGTTGAAACGGGTAAACGGCCAGCCCGTGCGAACCG
CCGTGCAGCGCGTTCCCTGCCTTCGTTGGCCTCCACGCGGTAAGTCCTGCCGTTGATGTCG
AACGCCGCACCCGCGGATGCGTCCGGCCACGCGCCCTATCTGTTTGTTAATCTGAAACGGA
TTGTCCGCATAGGAAGCCGCATCATCGAACGACACGAGGTTTTCGCGCACGCCGCTCT
5 GCCAAACCGGAAAATTCCTGCACAATCCCGCCCAAGTCCAGCACGACGAGACACGCGTACCA
CGCCGGTTGGACAGCACATAGCCGGTTACGGCACGCGCCGTCGATCAGACCGAAATCGCGG
GTAGCGGGGGTATCGCTCATCGCTCAAACCCCGCGTGTGTTTCTTTAATCAGGAACACG
GAAAACGCGCCAGCAGCAGGACGACGCCCCCTACCAAGAACATAGTGGCCTGCAAGCCG
10 CCCAGCATAGGGAAAAGCACGAACTCAACAGCGAAGCGACGATTTGAGGCATACAGATA
GAGCCGTTAAACAAGCCCAAGTAAGTGCCCATATGCTTGCCCGACAAGGCGTTGGTCACA
ATCGTCAGCGGATAAGTGATAATGCCCGCCCAAGCGATGCCGATTAAGGTATAAGACAAC
ACCAGCGCGTATTGGTTGCCGATGAAGAAAACGGAGAAAAGCCGAGCGCGCCCAAAGCC
AAACAGCCGAAATAACCCGCCTTATGGTATTATTTCGGCACTTTCGCCAATACAAACGAA
15 CAAATCAGCCCGCAACCGACTGCACCGCCGCAAAACGCCGTACCAGTTACCCGCCTCC
TGATAACCTACGGAAGACGCATCGGTGGTGTGCCAGACGTTTTCCGCAATCGCGCCTGCC
GAGTAAGTCCACATATATTGGAAGGCGAACCAGCAGAAGAATTGCACCAAAGTAACCGTC
CAAAACGCCCTTAGGCGCGGTTTTCAAGAGTTCGATCCAGTTGGCTTTTTCTGATTTCGCG
GCGACATCGATGCCGTGGTAACGGGCGTAGGTTTCGGATCGTATTCCTTCACTTTGAAA
20 ATCGTGAACGCGCTGGTAATCACCAGCAACGCCGCACCCACATAAAACGCCACGACCACG
GTCTGCGGCACAACGCCCTTCTCGGCGGTGTTCGCCAAACCGATATACGCAACACAAAC
GGCAGAATCGCCGCCACGACCGCGCCGTATTGCTAAGAACTTTGAATCCCGTAGGCG
TAGCCTTTCTGCTCCTCGTTGACCATGTCCCGGACCATCATCTTAAACGGCTGCATCGCC
ATATTTGACGACACGTCTAACAGCGCAATCATCAGCGCGCCGAACGACAAAGCCGCCAGC
25 GACGCATAGCCGAAACCGAAGCTGCCCGAGTTCGGCATCAAATCATCACAATAACCGCA
ATCAGCGTGCCATAAAGCAGATACGGCAGACGGCGGCCCAAACGCGGCTTCCAAGTG
CGGTCCGGAGTAATGGCCGACAATCGGCTGCACCAGCATCCCCGCCAGCGGCGGCGAGGATG
AAAAACCAGCCCAAATTTGTGCGGGTCTGCGCCTAGCGTTTGAAAAATGCGGCTCATTTGC
GAGCTTTGCAGGGTAAGGCGGCTCTGAACGCCGAGAAAGCCGAAACTGAGCATCCAAATC
30 GTGCTTTTGGCAGCGGGGCAAACTTGTGTTGCTGTTGAGGCGTATATTCCGACATA
AGGTAAATCCTTTTTTGATTTGAAAAGTATAGTAGATTAAACAAAACAGTACGGCGTTG
CCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAGTGAATCGGTT
CCGTACTATCTGTACTGTCTGCGGCTTCGTGCGCTTGTCTGATTTTTGTTAATCCACTA
TATTTGCTTTGGAAAATCCGAAATGGTTGCCGGGGCGCGCATCCCTATCATATTATTT
35 TTTGTCTATATAATTTCAAAGGGATAAGCGGATTTTATGAATCCTGCCGATTTTGGA
ATACCGGTTCCGCGATAAACTGGCTTAAATCAAATTATCGGTTAAATGGCCGCTGAAA
TTGTTTGTGATAAGAACGAGAAAACCATGTCCCAACAATACGTCTATTCTATGCTGCGCGT
GAGCAAGGTTGTGCCGCGCAGAAAACCATCATTTAAAGATATTTCCCTTTCTTTCTTCCC
CGGCGCGAAAATCGGCCTGCTCGGTTGAACGGCGCGGGCAAGTCCACCGTGCTGCGGAT
40 TATGGCGGGCGTGGATAAGGAATTTGAGGGCGAAGCCGTGCCGATGGGCGGCATCAAAT
CGGCTACCTGCCGCAAGAGCCTGAGCTTGATCCGGAAAAACCGTGCGCGAGGAAGTGGA
AAGCGGTTTGGGCGAAGTGGCTGCCGCGCAGAAACGTTTGAAGAAGTGATGCCGAGTA
CGCCAATCCTGATGCGGATTTTGACGCGTTGGCAGAAGAGCAGGGCCGCTTGGAAGCGAT
TATTGCGGCAGGTTTCGTCCACGGGCGCGGTGCGGAACACGAATTGGAATCGCCGCCGA
45 CGCGCTGCGCCTGCCGGAATGGGATGCCAAAATCGATAATTTGTCCGGCGGTGAAAAACG
CCGCGTTGCCTTGTGCAAACTCTTGTGAGCAAGCCCGATATGCTTTTGTGAGACGAGCC
GACCAACCACTTGATGCGGAATCGGTGAGTGGCTGGAGCAATTTCTCGTGCGCTTCCC
CGGCACAGTCGTTGCGGTAACGCACGACCGCTACTTCTCGACAACGCCCGCAATGGAT
TTTGGAACTCGACCGCGGCCATGGTATTCCGTGGAAGGCAATTACTCGTCTTGGCTGGA
50 GCAGAAAGAAAACGCTTGGAACGAGGCAAAATCCGAAGCCGCGCGCGTGAAAGGCGAT
GAAGCAGGAATTGGAATGGGTGCGCAAAATGCCAAAGGCCGCAAGCAAGTCCAAAGC
GCGTTTGGCTCGTTTTGAAGAAATGAGCAACTACGAATACCAAAAACGCAATGAAACGCA
GGAAATCTTTATTTCCGTTGCCGAGCGTTTGGGTAAACGAAGTGATTGAATTTGTAAATGT
TTCCAAATCGTTGCGCGATAAAGTGCTGATTGACGATTTGAGCTTCAAAGTGCTGCGGG
CGCGATTGTGCGCATCATCGGCCGAACGCGCGGGTAAATCTACGCTGTTCAAATGAT
55 TTCGGGCAAGAGCAGCCTGATTCGGCGAGGTGAAAATCGGACAAACCGTGAAAATGAG
CTTGATTGACCAAGCCGCGAAGGTTTGCAAAACGACAAAACCGTGTCGACAACATTGC
CGAAGGCCGCGACATTTTGCAGGTTGGTCAGTTTGAAATTTCCCGCCCGCAATATTGGG

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GCGTTTCAACTTCAAAGGCAGCGACCAAAGCAAATTCAGGTCAATTGTCTGGCGGCGA
 ACGCGGTCTGCTGCACTTGGCAAAACCTTGTGAGCGGCGGCAATGTATTGCTGCTGGA
 TGAACCGTCTAACGACCTTGACGTGGAAACCTGCGCGGTTGGAAGACGCATTGTTGGA
 5 ATTTGCCGGCAGCGTGATGGTGATTCGCACGACCGTTGGTTCCTCGACCGCATCGCCAC
 GCATATCTTGGCGTGTGAAGGCGACTCTAAATGGGTGTTCTTCGACGGCAACTATCAGGA
 ATACGAAGCCGACAAGAAACGCCGTTTGGGCGAAGAAGGCGGAAACCGAAACGCATCAA
 ATACAAACCGTTACGCGTTAACCTCCGAAACAATGCCGTCTGAAAGGCTTTCAGGCGGC
 ATTTTACAAAGGCAGCACCGTTTAAACAGCATTGCAATCCTCAAGACAATCAAAGTCAT
 CACCGCAGCCGCCATATCGTCCGCCATAATGCCAAACCGCGTGCAGATTCTTGTCAA
 10 CCAACCGACGGGAGACGGTTTGTAGCGGTCAAACAGACGGAATAGGACAAATGCCGCCAG
 CCACCACGTCCACCTGAACGGCACAAACGCCAGCACAAACAGCATGGCGACAATCTCGTC
 CCAAACAATCCACCGTGGTGGTGCACACCGTTTACGTTCCGCATAAGCGCAAATGCG
 TATGCCCCACATAAACAGCACGATACACAAAAAGCCAGCAGTAGCCCGTCTATGCCGAG
 CAAAATCAGCACAAACGCCAAAGGCGTCCGCCAAAGTGCCGAATGTGCCCGGCGCGAA
 15 CGGAGCCAGCCGCTGCCGAAACCGAAACCAAAAAACACAACGCGCGTTTCAACAGCCA
 CGCAAAGTCAGGTTTAAATCAGCCAAATGATCGAATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 58>:

GNMAB61F *gnm*_58

20 CGGTCTTGGCGCACGCGCGnCTTTCGGCATACATCACGCCCAAATTGTTTTGGGCTTGG
 GCTACCCCTGCGCTGCCGCTGCCGAAACCATCTGACCGCTTCGACATCGTCTTGGCGC
 ACTCCAGCTCTTCGGCATATATCACGCCCAAATTGTATTGGGCTTGGACAACCCCTGC
 GCTGCCGCTGCCGATACCATCTGACCGCTTCGGTATCATCTTGGCGCACGCGCGCCCT
 TGGCATACATCCAGCCCAAATTGTATTGGGCTTGGGCTAACCCCTGTCCGCGGCTGCC
 25 GATACCATCTGACCGCTTCAGCATCATCCCGGCGCACGCGCTCCTTTGTAATACATTGC
 GCCCAAATTGTATTGGGCTGCTGCATTTCCCTGTGCTGCCGCTGCAAGTTTCCCGAAAA
 TCCGATACGTATCCGnCCACACCGGTTCGGTTCAAGCCCAAGGCAATCAGGGCGGCGCA
 AGCATTTGACTGTCTGTTTCATGGTTnACTTCTGTTTTAGTATAAGGCGGGTTTCAGCC
 ACCGnTAACGATAGGGCTGGGCGGATT
 30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 59>:

*gum*_59

GTACCCTGCTCAAGCAGTACAATCCCGAGTATTCGGGCATTTTCATCATTTTTTAAGACAG
 GAAGGGACTGATTGTGAACAAGTCTGAATTGATCGAAGCGATTGCTCAAGAAGCCGAsAT
 35 TTCCAAAGCCGCGCACAAAAAGCTTTGGATGCCACTACCAATGCAGTAACCACCGCCCT
 GAAACAAGGCGACACCGTTACTTTGGTCGGTTTCGGTACTTTCTACGTGGGCGAACGTGC
 GGAACGCCAAGGCCGCAACCCCAAAACCGGCGAGCCTCTGACCATTGCCGCGGCCAAAAAC
 GCCTAAATTCCGCGCGCGCAAAGCTTTGAAAGACGCACTGTAAGCCGTTTTTTATGAAAA
 AAGCCGATTCTTTAAAGAATCGGCTTTTTTATCGGTCCACATTATTCTGATTTCAAATCG
 40 GCAACACACTGCTTGTACGTGCTTCAAAGGCATTTGCGCCGCCGAGCAGGTCAAGCTGT
 TCTTGTGCGCCGAGTTTGCAGGAAGGATCTAATCTGTTTCTCGCTCAATCTGTCCAAAGGC
 TGCTCCACATACATTGCGAGTAGTCGACGGCGAGGCGGGTATTGTTTGAATCTAAACCG
 CGGGCCCGCAAATCGTTTGCCATTTTTCGGCAAACGGAATATCTTTCACGCAAGACTCG
 ACAATTTCTGTGTTTTGCGCTTGGACATCGCGCATTTGGGAGAGCAGGGCGGTTAAAC
 45 GCGAGCAACGCCAAAATGACCCACGCCAAATGCGGATGGTGCAGATTTTGGCTTTTGCT
 TTTTTGCGCGCGGCAACCTGCTCTTTCGTACGATTTTCGTGTTTCGGCTCAGTCATGCAG
 GCTTTCCATGCGGATCATGGTAATCGGTTTTTCACGCAATCCAGTGCTTCGATGGCTGC
 GATTGCCGACTTGATGTGTTTTTCGACCGTGCTGTGGGTGAGAATCACGATTTTCGGCAGT
 GGTCTGATCAATCACGCCTTTTTGAATCAGTGCTTCGATGGACACGTTTTCTTGTCGCAA
 50 CAGCGCGCGGATTTGCCCGACGCTGCCCGGTTTCGTCTTTGGCTTGGACGCGCAGGTAGTA

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GCTGCTGGTAATTTTCGTCCATAGGCAGGATGGTTTTCGCTTGGACTTTCGCGGGTTGGAA
CGCCAGATGCGGTACGCGGTGGGCGGTATCGGCTTCAACCAGGCGGGCGATGTCGATGAT
ATCGGCAACCACGGCGGAAGCGGTTCGGCAATGCGCCCGCGCCCGCGCGTAATATAAGGT
5 TTCGCCAACCATATCGGCGTTGACGCGCACGGCGTTCATCACGCCGTTGACGTTTGCCAA
GAGGCGGCTTTCGGGAATCAGGGTAGGGTGGACGCGCAGCTCGATGCCTTTGCCGGTTTT
GCGGGTAATGCCAACAGTTTGATGCGATAGCCAAGTTCTTCGGCGTATTTGATGTCGCG
GCTGTCGAGTTTGCTGATGCCCTTCGAGGTAGCAGCGGAAAAGTTCATCGGCGTGCCGAA
TGCCAGTGCGCTCATGATGGTGATTTTATGGCCCGCATCGTTGCCTTCGATGTCGAAGGT
10 CGGATCGGCTTCGGCATAACCCAATGCCTGCGCTTCTTTAGTACATCGGCAAACGCGCT
GCCTTTTTCGCGCATTTTCGAGAGGATGAAGTTGCTGGTGCCGTTAATAATGCCGGCGAT
GGATTTAATCCTGTTTGCCGCCAAACCTTCGCGCAGGGCTTTGATGATTGGGATACCGCC
CGCTACTGCCGCTTCAAATTTGACGATGACGTTTTGTTTTTCCGCCAGCGGGAAGATTTT
GTTGCCGTATTCGGCGAGCAGTTTTTTGTTGGCGGTAACGATGTGTTTGCCGTTTTCAAT
GGCTTTCAACACCGCATCTTTGGCAATGCCGTTACGCCGAACAATTCGACGACGACATC
15 GACGCTTTCACGTGCGACCAAGTTTGAACGGATCTTTGACAAAGGCTGCGGACGGGACAGT
TTGTGCGGCTTTTTCTTCACTCAAATCGCACACGGCAGAAATACGGATTTTCGCGCCCCAA
GCGACGGGAAATTTCTCCGCGTTGTCCCGCAACACGGCAGCCGTACCGCCGCGGACCGT
ACCCAAACCTAAAAGACCGATGTTTACTGGCTTCATTGTGTCTCCTTGTAAGCCGACTGA
AATGTAAATATTGAAAGACGAAAATATCCGCTGCCGATATAATTGTGCCGCACTTTGAAT
20 CAAATGCCGTCTGAAATCGGCAGGCGGGTCAGATGAAATCTGCCAATCCTACATGAATTT
GTCTGATTTTGCATCCCTTTCGGTGTAGATGATGCGGCAACGGGGTAAAAAATGTTGTT
TGAAGAAAATCCGATAGACGGACAGTTTTCGGAATATGAATGCGGTGCGGGCGGAATCCG
GCTGGCGGGGCAAAGTTTCCATAAACCCGTGCTTGTACATAAGGATTGCGTCTGCCTGTC
GCAATGCCGAACCTTGTCCGATCTGACTCCGAAAACCTGTTGTCCGACGTCAAACCTGT
25 TGAATATCCGGAATATTGATTATCGGGACGGGCGCGGCTCAGGAGTTTATCCATCCCAA
AATCATGGCGGATTTTTCCCGAATCGGAATCAGCGTGGAATGCATGAATACCGATTTCGGC
ATTCAGGACATTTGGTTTTCTGCACTCGGAAGGGCGCAGGGCTTGGGCTTGGCTTCAGCC
GTAAATTTCCCGTTTCAGACGGCATCGGCACTGACTTTTCAGTAAATACGGGCTTTTCC
CGCCGACGATGTTTCCGTTATGATTGAAATCAAACCTCACCTGCAACGCGGTTTGA
30 AAGTCTGTCTGACAAAGCCAACGCTACCGTCAATCCCGGTACGCGCGTCGGTTTGATCG
GCAAAAACGGAACGGGCAAATCGAGCCTGTTTGCCTTAATCAAGGGTGAAATCACTCAGG
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CCGATTTGGATATTTCCGCTTTGGATTACGTTTTGACGGGCGATGCCGAGTTGACGGCTT
TTCAGACGGCATTGAGGCAGGCAGAAGCGCAAAATGACGGCATGAAGCAGGCGGAATATC
35 ATGCTAAATTTGGAAGAAATCGACGCTTATACCGCGCCGGCGGTGCGGCAAAATGTTGA
ACGGGCTGGGTTTTTCGCAAGAAGAACACAGCCGCCCGTCAAATCCTTTTCCGGCGGT
GGCGTATGCGCCTGAATCTTGCAGAACCCGTGATTTGCCGCGCGGATTTGCTCTTGCTTG
ACGAACCGACCAACCACTTGGATTGGAACCGTCTTGTGGCTGGAAAACCACTTGCTT
CTTTACCCTGCACGCAATCATCATTTCCCATGACCGCATTTTCTCAACGCGGAACTA
40 CCCAAACCATTTGAATTATCGCAGCAAAAACCTCACGCAATACGGCGGCAATTACGATTTTT
ACCAAAACGAACGTGCGCAGCGTCTCGCGCAACAACAGCTGCCTATGTCAAACAGCAGG
CGCAAATCAAACATTTGCAATCCTTTATCGACCGCTTCAAAGCCAAAGCCACCAAAGCCG
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45 AGCTAGAACACGCAGATTTGGGTTACGAAGGCAAACTGTTTTGCACGACATTACCCTGT
CGCTGGAAGCGGCGCGCGCTATGGTTTATTGGGTGTCAACGGCAGCGGTAAATCTACCT
TTATCAAAGCTTTGGCAGGCACAATCGATTTACTCTCCGCGACATCGTCCGTTCCGAAA
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50 TCGGAGGCTTCAATTTGTCGGCGATATGGCGTTGCAGAAAACCGAACCATTTTCGGCG
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55 ACTACCGCAATGGCGTTTGGCACAGGAAAACGCCGCCGCTCGCGCCCGCAGCATCCGCAC
AAAGCCAAAGCCGCAAAGACACCAAGCGCATCGAAGCGCAAAATCCGTCAGGAAAAAGCCC
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CCGAAATTCAGACGGCATGTGAAGCATTTTGTAGCACAGAAGAAGCTTACTTCGAGGAAA
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5 AGAAACAGTTTGGCGAGCGATAAAGAAGCGCGGGCAGGGTGCTTATCTTTGCCTGCCAAT
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10 GAAGCCAAAATACACATAGAAAGTAAAAAGAAAAACAAAAACCTGCCGGGAAAAAGAAC
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15 CCACCAACCGTCCAAAAGCTGCCACTCAACCGATTGTGCCCAATCGGCAACTACAGCA
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20 AGCAAAATATTCAAGCCCTGCAAGGGAACTGGGGCGTATGTAAAGCCGTGTTTTCAAT
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GTGCAAGGGATGCAGGGCATGTCGTTCACTACCTTCGGATACGCGGATGCTCCGGGCTA
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25 TACAACTGTTTCCGATAGTTTCGCATAATGTATATTATGTTAAATTATATATTTGTGCAAA
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30 GCTGCCATTTTACGCTCCAAAACCCATATTTTCAAGGTGGGCATTGACTTTGCTTTGCCA
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CAAGCGGCTGATAAGCTGCTGAATACTGTTTTCCAAGCGATTTTCGATTCCGGCTTTGTAA
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35 GGCTTTTTCTGCGTCATCAGTGTTTGGGTGGTTTGTAAACAGCCGTTTCGCTTCTTC
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40 CTTGGTTTTGGCTTTGCCTTTTTGTGCGTTTCGGTTTCCTCAAAGACGACGGTCAGGTT
CGCGGCTTCATCGCTTTCTTTGGTGATTTCGGCCAGGTTTTTAACCGCCTTCCAGCCATC
TTGGGCGATGAGATAAACATCGTCTTGCAAGGTTTCCGCCAGTAGTCCGTCAGGATTTG
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CCATTTCCGGATAAGCCTGCCCGTTGGATGGCGGCAAGGTCGTTTTGAGTGTGCCACGC
45 GGCAAACTTTGCTAGGTGTCCGGCTTTGAAGGCGGCGTAATCGGGGTGCGCAATATATG
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GCCCTAAATTCCACACCAATCCCGCAGGATTTTAAGCTGTTGAGAGTGGGAAAGATTTGC
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50 CCATAAGATAGATAGGCGGCGAGATTTGCAGGCTTCGACTTCTCCGCTGTGATATA
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GTAACGAGGTTTGTGAAAGTGTGATGATTTTGTGAATGTCTTGCTCACGACAGCGTTT
TTGTTGCCGTCTTAATGAAGCCGCGCGATGCGTCAATCATAAACACGCTGCCGCGCTG
ATACTTGGTTTGTTCCTCTTCGGCAAATTTGGGCGGTTTGGGCGTGTTCTTTGTGATG
55 ACGATGATGACGCGAGGAATGCCCGTGCCGTAACAGGTTGGCAGGCAGCCCGATAATG
CCTTTAATAAGGTCAAGGTTAAGCAATCCGTGCGAATACGCGCTTCGGCATTGCCGCGA
AACAGCACACCGTGCGGAAGAATAATCGCACCTTTGCCGCTTGGTTTTCAGGCTTTTGAGC

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AGATGCAGCAAAAAGGCGTAATCGCCGTTTTTTTCGGGCGGGATAAGGCGGATTGGCAAC
GGCAAAATCGAAGGTCTTAAGCCCGTCGTTTTTCATCACGGAAAGACGAATCGGACAAGTG
TTCCCGTGTGATTTCGGCGGTTTCGTTGTTGTGCAAAATCATATTCATACGG

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 60>:

gnm_60

CTGAGCGCGGAAATGGCTTTCAGACGnCATTTGCGCTCAATAATAATATCCCGCGnTCAG
AATACACGGTTTGGATGCGCCGGTTGCTTTGTGCGGACTACCGGAATGCGATTAATCCA
ACACGCCGCCAACCACGCAAAThCGGCGGCTTCCACCCATTGCGGATCGAGGTTTCAGGTC
10 GCGGGTGTGTGCAGGGAACGCGTGTGCCGAAACATTCTGCCAAATCCGCCATTAAAC
AGGATTGCGGATGCCGCCGTGCGAAATGTACATTTGACGGGCATCTGCCGCTGCGTGTGA
GACGGCGTCGCAACGGTTTTCGCGGTAACGGGAAAGCGTCCGCAATACGTCGTATCG
GTTTTCGCCGCCGTCAAGGTAGGTTTCGAGCCAATTTATGGCAAACAGTTCGCGCCCCGT
GCTTTTAGGGTGGCGTTGTGCGAAATACGGGTGGGCGAGCAGCCTGTGAGCAGTTGCGG
15 CAATATGTTGCCTTGTGCCGACTTTCACCGTTTTTGTGCGTAAGGAAGCTGC

- The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 61>:

gnm_61

CCCGTATCGGATGATTTTTGGGGGAATGGTTGCGCTCATGTTTTTTGATAACGGGAAACC
20 CGTTTTTCTCTGTAGAAAGGTAAGCGTTTACTTTAAGTAATTGACTGTTGCGGGTCAAGT
CTAATTTTAAAAAATAATCCGGTTTTTCTTACAACTGCCCCATAACGCTTACTGTACC
TTAATCTGATGGTTTTTCGATAATAATTATCATTAACGAAATGCCGGTTCGTTTGCTTG
TGAACATTCAGATGCCGACTCTGACGGCATTCAGACAGCATCTGAAAACAATAACGGCA
CAAGGATGGGGTACAATCGCCCTATGGAAAAAACACCCTATCCGCCCCGCGCACCATCCC
25 CTTGGCTGCCGCTTCTGCTGGCAATTGCCATTTTTATGCAGATGTTGGATGCGACCATTT
TAAATACCGCACTGCCTGAAATTGCCGCCGACCTGAATGAGTCGCCTCTGGATATGCAAC
TGGCAGTTATTTTCTACACGCTGACGGTTGCCCTGCTGATTCCTTTGAGCGGTTATTTGG
CGGACAGGTTTCGGAACGAAAAAGTCTTTTTCGGTTTCGATTGCCGTTTTTATGCTCGGAT
CGGCATTGTGCGCCGCATCGGGTTCGCTGTTTGAATTGACGCTTCCCGTGTCTGTTTACGG
30 GCATCGCGGTTTCGATGCTGGTTCCGATACCGCGTCTGACCATCTTGCGTGTGTACGACA
AGTCCAAGCTGCTCAATGCCATCAATTATGCGGTTATGCCCGCATTAATCGGGCCGGTTT
TAGGGCCTTTGGCGGGCGGTTATTTGGTCAATACGCTTCGTGGCACTGGATTTTCTGCTG
TCAACCTGCCCATCGGTCTGCTGGGTTTCATATTGGGACGCAACATCATGCCCGATATTA
AAGGCAGTAATATCTCTTTAGACTTCAAAGGTTATCTGATTTTTTCTGCCGCCGCGTGCC
35 TCTTGTTACTTTTCGGCAGAAAGCCTGTGCGACGCGCTGCCTCCGTATTTTGCACGTGTTGC
CGCTGTGCGGCGGACTGCTGTTTGACGCCGTTATTTCCGACATATGAAAACCGCGTCCA
AACCAGTTTATTTCCGCCGACCTGTTTCTGATACGCACTTTCCGTCTGGGACTGGCGGGCA
ATCTGTTTCAGCCGCTCTCGGCATCAGCTCGATTCTTTCTGATGCCCTGATGTTTCAAA
TCGCTTTCGGCTTCGGCGCAAGCCTGTGCGGTTGGCTGGTTCGACCCGTCGCCCTGTCTT
40 CGTGCTGGTCAAACCGCTGATTGCACCGCTCATGAAACGTTTCGGCTACCGCACGGTAC
TGCTTTGGAACACCAAGCTGCTTGCCGCCCTTCATCATGCTGCTCGCCCTGCCTGACGGAA
ACTCGCCGCTGTGGATTTGGGTTTTCTCTCGCTGGCGATCGGCGCGTGCAACTCCCTAC
AGTTTTCTGCCATGAACACACTGACCTCGCCGATTTCGCCCGCAACAAACAGGCAGCG
GCAACAGCCTGATGGCGGTCAACCAACAGCTTGCCATCAGCATGGGCATTGTTGCGCGG
45 CATTAATCCTTAAAACTGGACATTTCTGATACCGGCTTCTTCAGGTCTGCATTCCGCCCT
TCCGTATGACCCTGCTCAGCATCGGCGGCATCACCTTGCATCATCGCTGGTTTTTCAAA
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ACGCAAAACTTTTACCCGTTTCAACGTTTGATTATGATACCGCACTTCCATGCGCGCCA
ACCCCAAAACACAGGCAATGCCGTCTGAAACCATATCCCTGATGAAAACACGCAGCCTAA
50 TTTCCCTTTTATGCCTCCTTCTCTGTTTTCATGTTTTCATGGTTGCCCCCACTGGAAGAAC

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GGACGGAAAGCCGTCATTTCAATACTTCCAAACCCGTCGGCCTGGACAACATCCTGCAAA
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AAGCCTTTGCCGCCCGCCGCCCTTATCGAATCTGCCGAACACAGCCTCGATTTGCAAT
5 ACTACATCTGGCGCAACGACATTTCCGGCAGGCTGCTGTTCAACCTCGTGACCTTGCCG
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ACCTCCTGCTTGCCCTCGACAGCCATCCCAATATCGAAGTGCGCCTGTTCAACCCCTTCG
TCTTACGAAAATGGCGCGCACTCGGCTACCTGACCGACTTCCCCCGCTCAACCGCCGCA
TGCACAACAAATCCTTTACCGCCGACAACCGCGCCACCATACTCGGCGGACGCAATATCG
10 GCGACGAATACTTCAAAGTCGGTGAGGACACCGTTTTCGCCGATTGACATCCTCGCCA
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CGCCCTCTACCAAAAAATACAGACAGGATGCATCGACTGGCAGAGCGTCGGAACCCGCC
15 TCATCAGCAGCAGCCCTGCAAAAGGACTCGACCGCGACCGCCGCAAAACCGCGATTGCGG
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TTACCGTTCTGACCAACTCGCTGCAGGCGACGACGTTGCCGCCGTCCATTCCGGCTATG
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20 CCAAAACCTTCATTGTGGACGGCAACGCATCTTCATCGGTTGTTCAACCTCGACCCCC
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25 TATTATAGAAATATAGCGGATTAACAAAAACAGTACGACGTTGCCCTCGCCTTAGCTCAA
AGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTTCGTACTGTTGTACT
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TCCTCTGTCTCAGCGCACTGCTCCTCGCCTCATGCGGCACGACCTCCGGCAAAACACCGCC
30 AACCGAAACCCAAACAGACAGTCCGGCAAATCCAAGCCGTCCGCATCAGCCACATCGACC
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35 CACACCGCTACTCACAGTCGGACTCTACATCGGCAACGGCGAATTCATCCATGCCCCCA
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40 AGCGAGAAACACATCGCCATGCGGTGGTCGTGCTACGTGTCGATGACGGCGTCGGGTGTC
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45 GAAACTTCGACGAAGTTTTGCCCCAAACACGTCGCCCCGATTTTTTCCAGCTCGCGG
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55 AACGCCGTGCCCGGTTGCCCAAAAACAAATCGGCAGTGCGGTGGGGAAAGCGTCCGCCCT
GTGCCGTGCACTTTCAGACGGTCTTCGGCAAGATATTCGATTTGAACGCCGAGTTTATCG
AGTGCTTCGAGCATACGGTTCGGTATCGTCGGATTGAGCAGGGAATGGATTTGCAAGCA

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TTGTCGGACAAGGCGGCAAGCAGCAGGGTGC GGTTGCTGATGCTTTTGGAGCCGGGCAGG
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5 TTGATTATTTTAAATTTTTTGTCTCTAAATTTCTTTGTCGGCATATTTTACGCTTTTG
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45 GTTCAGTTTCGGTCATTTCGATAAAATTCCTGCTGCTTTTCATTTCTAGATTCCCACTTT
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5 AGTTTGACGATGCCAGCCAAGCCATTGATCCTTGGGACAGCAATAATGATGTGGCTTCGC
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TGTC AAGGATGCCTGATTTTTAATCACCCCTTGAAAGAACGGGCGCACGGCATTATAT
ACAGATATCGACAAGCAAGGTTAAAACCATTAAGGAAATACGATGAAATACAAAAATGAG
GGTTTTAATGGCTGGTAAGGTGCGGAAACAAATAAAACAAGGAGGTTGGTTGTCAGTAAT
45 TGCCCTAACCTCCTTGTGTTGTATCTGTATTCACTTTATTTTACATATTCAGGCACAGCGT
ACAGTTTTAACCTATGAGGGACGGCCGAATGGCTGATGTTTTGGCAACTGACCGTTGTTTC
AGTAACCGCCGTCATTGCACTGGGACAAATATTCATCAATAAGAAAACCTCAAAGCAAAA
GGCGACATTAGATGTTATTTGAATGATTACCAAGATGCACAATTTGTAGAAGCCGACAA
TCATATTTCCGCTTATATTCGCGGCACGGCAGTTGACGACAACAACGCGCGGATCGACCT
50 GTATGAAATTTATCAAAATAAGGGCGGACAATGGGAAAAAGAGAGAGGGCATTACTTAC
CGTAATCAATCGGCAGAGTTTTATGCGTGC GCAATCAACTCGGAGTATTGGATGAGGA
TTTTGTTTTAAACGGCTGCATTGCACCAACTTCATAAAATTTGTGGAATGCAGTTTCGCCTCT
TGTTATGAAAATACGCGAAGAAGAACGCAAGACACAATATTTAGAGAGTTGGAAATTTT
GGTTGCATTATGAAAGCAAAACCCCTAAAGGCATCTGATTTGTGAATAAACAGTCAAAA
55 CTGTTCTGAAATATGGGCAGCCACGCAATCGCCGAAATACGCCAAAGCAGCCTTATAAAG
TGATTTTTTGAACATAATTTCTCTTGCGGAGCATTTC CAATCAAACAGTTTTAGTTT
ACTTGGTTTTGTATCCCTAAACAACCGAAATCCGACATCAAGCAATTAGAAAGCTTTTGC

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ATCTTGAAATGGATAACAAAATATTGCCTGAAGGCGCAATACAGTACAAAAGCCGTCC
GAAACAGTTCGGACGGCTTTTGGCGTATTCTGCACAAGTATTTGAACAACTGAAATTTTA
TGGTAATATGTATCTACTTTGTAGATACAATAAAGGTGAAGATTATGTTGCGTGCCAAA
5 AATGGGGGAACTCGGCGGCCGTCCGACTGCCTGCCGACATGCTGAAACAATTGGATTTTA
AAATCGGCGACGCTTTGGTAGCGGAAGTACATAACGGCGAACTCCGTGTGCGTGCTGCC
GACGTTTTCCGCTTGGCAGACTTGCTTGCCGAAATGGAAGAAACCCCGCCGCGGTAGAAG
GCTGGGAAATCTTGGATGATGCCGGCAACGAGGTCGTCTGAAATGTATATCCCGACAAA
GGCGATATTTCCATTTGAATTTGACCCCTCCAGCGGCAAGGAAATCAAGGGCGGGCGG
10 TTTGCGCTGGCTCTGTCTCCAAAAGCATTCAACCGCGCAACGGGATTGGTTTTTGCCTGC
CCCATTTACAGGGGAATGCAGCAGCTGCACGAAGCAGCGGCATGATTTCAACCTTACTC
GGTGCAGGAACGGAACGCGAGGGCAATGTCCACTGCCACCAGCTCAAATCTCTAGACTGG
CAAATCCGCAAGGCTTCTTTAAAGAACTGTACCCGATTATGTATTGGACGATGTGCTG
GCGCGCATCGGCGCGTCTTATTCGATTAAATGCTGAAACCGCCGAACCTGTAATCTTT
15 TCTTACAGGTTTCGGGCGGTGCTTATTCGGCAGCTGACTGCTTACTGCATGACCATATG
CCTGCCATTCCCTTAAATCGGCTGCATGTCCGTGCGCTGTTTCTGCCAGTCCCTGCATATT
TTTCAGCGCACTGTCCGAATAATAGCCAGCCTTGGGAATCTGACGCGCCATCAGATGCGG
TGGCGCGGTAGCGGTTGCGGGCAGGTTTCTGTTGCGATTTTGGGCGGCGGCTAGTGGC
GCAGGCGGTTAAGCTCAAGACGCATAGCGGCAACAGTTTTTTCAGCATTTTGTTCCT
CTTCTAATTTGGTTTGTGCTTCCGCAACGCGGCAGCGGCCCTTCTGCTCGGCAAGCGG
20 CCTGCTTTGCTGCTCGATATAGCCGTCTTTCAGACGATTGAGATTTCCGGCAGCAGCAG
CTTCCCGTCCCATGCGGTATTTTTTCGGCACGGTCGAAATGCCATGCGGTAAAAATCAGGA
CGATTAGCAGCAATACACCTACCGGCTTCCAGTATTTCAATAAAATATCCATTTACAGCG
ACCTCAAGGATGCAGCCCGGGCAGATACACGGTTTTTGCCGTTTTTCTTGGTTGCGGTCAG
TATCTGGTTGCGTTGCGGGCTGTTGCGTCGGAACCGATGTGTACCCATGCGCCGTCCCC
25 GCGCTCAGGAATTCAGATATCAACTGGTCAATTTTCAGCGCACGGCGGATTTCGCATTTG
AAGTGCACTTTCCCTAACAGAAAAAGGCCAGTATGCGGTAGCATACGGCCTTTCTTGCA
AGAAAGATTGCCATGAGCCACACGCACTGACCCAAGGCGAACGATACCACATCCAATAC
CTGTCGCCCATGCAACCGTCACCGAAATCGCCAAACAGCTTAACCGCCACAAAAGCACC
ATCAGCCGCAAAATCAGACGGCACCGCACCCAAAGGGCAGCAATACAGCGCCGAAAAAGCC
30 CAGCGGCAAGCCGGACTATCAACAGCGTAAGCGACAACCTATAAGCTCGATTGCGAG
CTGATTACGACATCGACCCCTTATCCGCGCAAACTCAGTCCCGAACAGTATGCGCC
TACCTGCGCAAAACACCACCAGATCACGCTCCACCACAGCACCATTTACCGCTACCTTCGC
CAAGACAAAAGCAACGGCAGCACGTTGTGGCAACATCTCAGAATATGCAGCAAAACCTAC
CGCAAAACGCTACGGCAGCACATGGACCAGAGGCAAGTACCCAACCGTGTGCGCATAGAA
35 AACCGACCCGCTATCGTCGACCAGAAATCCCGTATCGGCGATTGGGAAGCCGACACCATT
GTCGGCAAGGACAGAAAAGCGCATTTATTGACCTTGGTCAACGCGTTACCGCTACACC
ATCATCTGCAAAATTGGATAGCCTCAAAGCCGAAGACACTGCCCGGGCAGCTGTTAGGACA
TTAAAGGCACATAAAGACAGGGTGCACACCATCACCATGGATAACGGCAAGAGTTCTAC
CAACACACCAAAATAACCAAGCATTGAAAGCGGAGACTTATTTTTGTCGCCCTTACCAT
40 TCTTGGGAGAAAGGGCTGAATGAGAACACCAACGGACTCATCCGGCAATACTTCCCCAAA
CAAACCGATTTCCGTAAACATCAGTGATCGGGAGATACGCAGGGTTCAAGATGAGTTGAAC
CACCGACCAAGAAAAACACTTGGCTACGAAACGCCAAGTGTTTTATTCTTGAATCTGTTT
CAACCACTAATACTAGTGTGCACTTGAAATCCGAATCCAAGCAATATTAATAATTAT
CGTCATCAATGCGGCTTCCCCAGCCCGCGGCGAGCTTCCACGACAGGCTTTTTTTATTT
45 GGGTTGGTCTGCTGGTTTTCTTTGAGTTCAAAAACAGGTCGGGATACTTAAGTTTTATTCTG
TGCAGGTATCCCGCGCTTCGTCCAATTGAAAACGCATTGAGGGCTATTCCCTGTTATTCTG
ACCAACTTCCCGCTAACTGCCGATTGATTGCAACAGGCGTTTGTCTTCATTGACTCTTTT
ATCCATAAATAAACCAATGTTTAAATCTAATGCTAATATTAAACACTATGTTTAGATAA
50 AAATCAAGTCTTGTGTAACAACATTTTGTTTAAATATGGGAGAATAATTAAGCCAACCGC
GAATAAGATTAAAAATGACAATGCAGGACAACTGACAGACTTTTGGAGATAGCCAAAG
AGCAGGGAGTTTTAAAGCCGGCTGACATAGCAGAGCGTCTGATATCAGCCAACAGGCTTT
GAAAACTGGGAAAGTCGTGGCATAGCGGCAAGGCGCTGCCTGAAGTAGCAAAAGCATT
CGGTGTATCTGAAACATGGCTGAGAACAGGTGAAGGCAGCCGAACCGCGCCCGTCTTAT
TGACCCCGACCTACCCACGAAGTCAAAGACATCCACCGCCCGATGACGTGGAGCAGCAA
55 CGACCCGCTGCCCGACGATGATTATGTTTTCGTCCCTACCTCAAAGAGAGCTGCTTCAA
AGGCGGAGTAGGCACGTATGAAATCCCCGATTACAACGGCTACCGCTGCCGTTCCGGCAA
ATCCACGCTTAAACGCAAGGCATCAATCCCGACAACGTGTTTTGCTGCACCCTGACCGG

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CGACAGTATGGAGGAAAAAATCGCAGAAGACGCGGAATTGCCGTAGATACGGGCGAAAC
CGCCATACGCGACGGCAAAATCTACGCCCTTCGCCCAGGACGGTATGTTCCGCGTGAAGTA
CCTGATACGGCAGCCTGGCAACAGCGTTCTGATACGAGCCACAACAGCGGTTTCTATGG
5 CGACGAAAACGCCCCCTTGGACAGCCTGACCGTTATCGGCAGGGTATTTTGGTGGAGCGT
GCTGGATTGAAAAATGTTGCTATTACGACGAGATAATATTGATAGGGCTTCAAGATTGT
CTGAAATAGGCGTTTTGATTCCCTTGGTGGCCTGGTGAGTACGATGCCGGTATGAATTT
CCTTGGCGTACAAGGAGAGTTGAAGGTTACGAGCTGCATCACAGAACAGCAACCCTGTG
CTTTGAGTGGCTTGGCGAAGTATCTGCGCCGCGCAGAAAAGAGAACTACAAAGACCTCAA
GCCAAATGTATTGTATGACTTTGATGGTTCCGGTAAGCATTGTTGCCAACCCCTGACGCAAG
10 GTATCTATTGCCCGTCGGTTCAAGCGGCTTAATCTTAAACATATCCAAATCGATGACGA
AGACACTCTGTTGCGGCTATGGTGCACGAAATATCCCAATGCCACACCGGCTATCTAA
AATCCCGATGCTTCGGCAGTATTATCTAAGCAAGGCATGGCAGCAATTTATGCTATCAA
CCAACACCTAAGGAAAACGAAGCTGATAGTTGATGTGGCATAACGCCCCACAGATTAAC
AACCCGCCCCGATTATGCGGGCTTTTTTCATGCCCCGCCGAACCTGAAAACAACACAAAA
15 CCGACATAGCCGCGTACC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 63>:

gnm_63

CCGTCTTTTGTGCTACCCTTGCCCGAATCATCCGATGTCTAAAAATTCTGCCTGATGGCA
20 GCCCTACAAACCCGAAGGAGTAGAAATGAACTGTCCGAACGTTCAACCCCGACGAATT
TGCCGCGCGGATTTTGAGTTTGGCGACGAAGCGGCGTTGCTTGCCGCTGTGCGCGAGAA
AAGTATGGACGATTTTGTGCGCAACACCGTGCCGCAAAGCATCCGTATGCCGTCTGAACT
CGATTTGCCGATGCCCTGACCGAAGCGGACGCGTTGGCAAAATTGAAAGGCATTGCGTC
25 GAAAAACATGATCAACAAATCCTATATCGGTTTAGGCTATTACCCGACCCGCGTGCCGAA
CGTGATTTTGCCTAACGTATTGGAAAATCCGGGTTGGTACACCGCCTACACGCCGTATCA
GGCGGAAATCGCGCAGGTCGTTTGAAGCTTTGTTGAACTTCCAACAAGTGTGTATCGAT
TTGACCGGTTTCCCTGTGGCGGGCGCGTCTTTGCTGGACGAAGCGACCGCCGCGCGCGAA
CGATGATGGCGCACCGCGTGCGCAAGGTAAATCCGAGCGTTTCTTTGTGGACGAG
CGCGTGATCCGCAAACCTTTGGACGTGATGAAAACCGTGCCAAGTATTTTCGGCTTCGAG
30 CTGGTGGTGGCGGATTTTGCCCAAGCCGACGAAGGCGAATACTTCGGCGCGCTGTTCCAA
TACGTGCGCAAAGACGGCGACGTGCAAGACTTGCAAGGACGTTATCGGCCGTCTGAAAGCC
AAAGGCACGATTGTGCGCGTTTCCGCCGACATCATGAGCTTGGTTTTGCTGAAACCGCCT
GCCGAATTGGGTGCGGATATTGCGTTGGGCAACACACAACGCTTCGGCGTGCCGATGGGC
TTCCGCGGGCGCACGCCGCTTATTTCCGCTTTAAAGACGAGTTCAAACGTTCCGCCCGG
35 GGCCGATGATCGGCGTATCCAAAGACGCATCGGGCAAACCTGCCTTGCGCATGGCTTTG
TCCACCCGTGAGCAACACATCCGCCGCAAAAAGCTACATCCAATATTTGTACCGCGCAG
GCATTGCTGGCGAATTTGGCGGGTATGTATGCCGTTTACCACGGCCCTGAAGGCGTGAAA
CGCATTGCCAACCGCATTACGCGCTGGCTTCTGCCTTTGCCGATGCGCTGGTTTCAGAC
GGCTGAATGTGGTTCAAAAGTCTTTTTGATACTGTTACCATCGATTTTGGCAGTAAA
40 GAGAAAGCAGACCAAGTGTGTTGCCGCTGCTTTGGCGTCGGGTTACAACCTGCGCCGCGTC
AACGATACTCAAGTTGCGGCTGCATTCATGAAACATCGGCATACGAAGATTGTTGTCGAT
TTGTACCGCGCGTTTACCGGCAAGGATACGTTTACATTTGCCGATGATGTCAAAGGCCGT
CTGAACGCGCAATTGCTGCGTCAGGACGACATTCTGCAACATCCTGTGTTCAACAGTTAC
CACACCGAACACGAAATGTTGCGTTATCTGAAAAAAGCTCGAAGACCGCGACTTGGCGATG
45 AACCGCAGTATGATTTTATTGGGACGTGTAATGAAACTCAACGCGACTGCGGAAATG
TTGCCGATTACTTGGGCCGAGTTACCGACATCCATCCTTACGCTCCCGAAGCGCAAACC
GCCGCTACCGCGAATTGCTCGCCGATATGGAACACAGCCTGAAAGCCATCACCGGCTTT
GACGCGATTTCCTGCAACCAAATTCGGGCGCACAAAGGCGAATACACCGGTATGCTCGCC
50 ATCCGCCGCTATCAGGAATCCCAAGGCGAAGCGCACCGCAACATCTGTCTGATTCCAAAA
TCAGCCACGGTACCAACCCCGCACCGCCGCGCATGCTCGGTTTGAAAGTCGTGTCGTC
GACACCGACGAACACGGAACGTCAACATTGACGATTTGAAAGCCAAAGCCGAGCAACAC
CGCGACGCTTTGTCTGCCATCATGATTACCTATCCGTCCACCCACGGCGTGACGAAGAA
GGCATCCGCGACATCTGCCGATTATTCACGAAAACGGCGGACAGGTTTACATGGACGGT

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GCGAACCTCAACGCCCAAATCGGCATCATGCAGCCTGCCGAAGTCGGTGCGGATGTGTTG
 CACATGAACCTGCACAAAACCTTCTGTATCCCTCACGGCGGCGGCGGCCCGGCATGGGT
 CCGATTGGCTTGAAAGCCCATTTGGCTCCGTTTGCCCCGGGCCATACCTTGACCGACACC
 CACAACGCGGCTGCCGATCAAACCGCCGTGGCTGCCGCAGCATATGGTTCTGCATCCATC
 5 CTGCCGATTACTTGGATGTACCTGACCATGATGGGCAACAAGGCATGGAACAGGCAACG
 CGCTGGCATTGCTCAACGCCAACTACGTCGCCAAAGCCTTGGGCGAGGATTATCCGATT
 CTCTACACCGGCAAAAACGGCCGCGTCCGCGACGAATGTATCGTCGACTTGGCTCCGCTC
 AAAGCCGAAAGCGGCATTACCGAAACCGACATCGCCAAACGCCTGATGGACTACGGCTTC
 CACGCCCCGACCGTCTCCTTCCCCGTGGCCGACGCTGATGATCGAACCGACCGAAAGC
 10 GAGAGCAAAGCCGAACCTCGACCGCTTCATCGCCGCCCTGAAACAAATCAAACAGGAAGTG
 CTGAAAGTCGGGCGCGGCGAATGGCCGAAAGACGACAAACCCACTGGTCAACGCGCCGCAC
 ACCGCCGACAGATATAACCGGCAACTGGGCGCATCCGTATTCGCCGGAAGAAGCCGTCTTC
 CCGTTGCCGTTCCGTCCGCGAACACAAGTTTGGCCCTTCGTCAACCGCGTGGACGACGTG
 TACGGCGACCGCAATCTCGTGTGCAGCTGCCACCGATGGAATAATTATGAAGACTGACTG
 15 TTGATATCTTAAAAAATGCCGCTCGAAACATTTTTCAGACGGCATTTTTCATCAACGGCAAA
 CCAGTTGCACCAATACACGTATCTCGACTATAACTTTAAAACAAATGAGTTAAACAGTA
 TCCATACATCAGCTTTTTTATCATCTACTTTTTTATTCATCCGATCGTGCAACAGATTT
 CAAAGATGAAAAGCCTATTACACCCCTTTGATGTCATTTCCACACGGACAAACAAATATA
 GTGGATTAACAAAAACAGTACAGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCT
 20 AAGGTGCTCAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTACGGCTTCGTC
 GCCTTGTCCTGATTTTTGTTAATTCATATAAATTCACATAAAAAAACGGAGCAGATACC
 TGCCCCGTTTTTATTTAATCCGAAATTTTAATCTAAATTTAGAAATTTTGACCGGATTGG
 TTTGCCATATAGTCAACAGCCGCTTTGACTTCGTTCATCGCTCAAACCTGCATTGCCGCCT
 TTGGCAGGCATCGCGTTAAAGCCTTCAAGGGCGTGTGTGTCAAGGTTTCTTTGCCTTTT
 25 TTGATACGCGGTGCCCAATCGTCTTTTTTGCCCTATGCCGGGAATACCGGAATCGAACCG
 CCGTGGCACACCTGACAGGTTGCTTCGAAGACTTTTTTACCGTCAACGCCGACCGCAGGG
 GCTGCCGCACCTTGTCTTCTGCCTTCGCTTCTGCCGAGCTGCACTATCGGCAGGAGCA
 GAAGCTGTTCTGAAGCGGCATTGTCCGCGAGGCGAGCCTCATCAGGATTCGGGAAAGAA
 CCGCCGCTTTTGTTCGCCATGTAAAGTAATCGCCCGTTTAAGTTCCGTGATCGGTGAGTCT
 30 GCCGCACCGCCTTTTGCAGGCATGGCGTTAAAGCCGTTTCAGCGCGTGTGGAACAAGGTA
 TCGAAGCCTTGCAGCATACGCGGTGCCAATCGCCGTTGTGTTCCAGTTTCGGAGCGTTC
 GGCACATTGCTGTCCGCGCGGTGGCATTGGATACAGATTTTGCCGAAATCTGTTCCGCT
 TGGCGTTCCGCGACGGGGATGCCGTGCGCCATCGTCAATTGTCCGACAGGCTGGATACGG
 GTCTGCGTTGCTGCTTCCGTAGTGGCATCGACATCGCCGAACGAGCCGCTGCCCGCCAGC
 35 TTAATCAGGAAATAAAGGACTGCAATAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 64>:

gnm_64

TGTGTTGTTTGCACCGGTTGChTGGGATAATCGTGGGTAATGCGTTCGGCGGCATAAGC
 40 TAAATCCGCCTGCACATAATACGGGCTGCGGCTGCCGTCTTCACTGCCGCCTGCGCTGC
 GGAAGAGAAGAGAAGAGAAGAGAAGCGGAGAGGAGGGGAGGGGAGGGGAGGGGAGGGGAG
 GGGAGGGGAGGGGAGGGGAGGAGAAGGTTTTTGGGGGCTGGATTCAATTTTCGACTCCGT
 ATTCGGTTTTTAATGATTAAAAAGAACAATTTCAATGATGTTGCAGGAGCGGACTATAT
 CAGGTTTGTGGCGATGTTTCAACACAATATAGCGGATGAACAAAAAGAGAACGATTCTC
 45 TAAGGTGCTGAAGCACCGAGTGAATCGGTTCCGTACTATCTGTACTGTCTGCGGCTTCGT
 CGCCTTGCTGATTTTTTGTTAATCCACTATAAGACCGTCGGGCATCTGCAGCCGTCAT
 TCCCGCGAAAGTGGGAATCTAGAAATGAAAAGCAGCAGGAATTTATCGGAAACGACCGAA
 ACCGAAACGGACTGGATTCCCGCCTGCGCGGAATGACGGGATTTTAGGTTTCTGATTTTG
 GTTTCTGTTTTTGAAGGAATGACGGGATGTAGGTTCTTAGGAATGACGTGGTGCAGGTT
 50 TCCGTGCGGATGGATTTCGTCAATCCCGCGCAGGCGGGAATCTAGACCTTAGAACAACAGC
 AATATTCAAAGATTATCTGAAAGTCTGAGATTCTAGATTCCCACTTTCGTGGGAATGACG
 GTTCAGTTGCTACGGTTACTGTGAGGTTTCGTTTATGTTGGAATTTTCGGGAACTTATGA
 ATCGTCATTCCCGCGCAGGCGGGAATCTAGACCTTAGAACAACAGCAATATTCAAAGATT

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ATCTGAAAGTCCGAGATTCTAGATTCCCACGAAAGTGGGAATCCAGGATGTAAAATCTCA
AGAAACCGTTTTATCCGATAAGTTCTGCACTGACAGACCTAGATTCCCGCCTGCGCGGG
AATGACGGGATTTTAGGTTCTGATTTTGGTTTTCTGTTTTGAGGGAATGACGGGATTT
TAGGTTTCTGATTTTGGTTTTCTGTCTTGTGGGAATGACGGGATGTAGGTTCTGTTGGAA
5 TGACGTGGTGCAGGTTTCCGTGCGGATGGATTCTGTCATTCCCGCGCAGGCGGGAATCTAG
ACCTTAGAACACAGCAATATTCAAAGATTATCTGAAAGTCCGAGATTCTAGATTCCCGC
TTTCGCGGGAATGACGAAAAGTGGTGGGAATGACGGTTTCAGTTGCTACGGTTACTGTCAG
GTTTCGGTTATGTTGGAATTCGGGAACTTATGAATCGTCATTCCCGCGCAGGCGGGA
TCTAGTCTGTTTCGGTTTCAGTTATTTCCGATAAATGCCTGTTGCTTTTCATTTCTAGATT
10 CCCGCTTTTTCGGGGAATGACGGCGACAGGGTTGCTGTTATAGTGGATTAACAAAAACCAG
TACGGCGTTGCCTCGCCTTAGCTCAAAGAGAATGATTCTCTAAGGTGCTTAAGCAGGAGT
GAATCGGTTCCGTACTATCCGTACTGTCTGCGGCTCGCCGCCCTGTCTGATTTTTGTTA
ATTCATATATCGGATTTTTCGGCATTTGCCTTTCGGGGCGGCTTGTGTCTCGTGCCTG
ATGTTGCGTGTGGGAATGTTTCGGATTGTGCAAGCAATATGGGAGAAGATGATGTATGAG
15 ATAAAAACAGCCTTTTCATAGCGGATACCTGACGGTGTCTGAAATTCATCAAATTTATTGG
GAGGAATCGGGCAATCCCGACGGTGTGCCGTTATTTTTTACATGGCGGGCCGGGCGCG
GGGGCTTCGCCTGAATGTGCGGGTTTTTCAATCCCGATGTGTTCCGCATCGTCATCATC
GACCAGCGCGGTTGCGGACGTTTCGCGCCCGTATGCTTGTGCGGAAGACAATACGACTTGG
GATTTGGTGGCGGATATTGAAAAAGTCCGTGAAATGCTGGGTATCGGGAATGGCTGGTG
20 TTCGGCGGTTTCGTGGGGCAGCACTTTGTCGCTGGCTTATGCCAAACCCATCCTGAACGG
GTAAAGGGATTGGTGTTCGCGGGGATTTTTGTGTCAGGCCGTCTGAAACGGTGTGGCTG
AACGAGGCGGGCGGTGTGAGCCGGATTTATCCGGAACAATGGCAAAAATTTGTGCGCGCG
ATTGCTGAAAATCGGCGGAACCGGCTGATTGAGGCGTATCACGGATTGCTGTTTCATCAA
GATGAAGAAGTGTGCTGTCTGCCGCAAGGCTTGGGCGGATTGGGAAAGCTATCTGATC
25 CGTTTCGAGCCGGAGGAAGTGGATGAAGATGCTTATGCCTCGCTGGCAATCGCGCGTTTG
GAAAACCATTTATTTGTCAACGGCGGTTGGTTGACGGGCGATAGGGCGATTTTGAACAAT
ATCGGCAAAATACGGCATATCCCGACTATTATCGTACAGGGGCGGTATGATTTGTGTACG
CCGATGCAGAGTTCGTGGGCGCTGTGAAAGCCTTTCCCGAAGCGGAATTGAGGGTGGTT
CAGGCAGGGCATCGTGCCTTCGATCCGCCCTTTGGTGGATGCGTTGGTTTCAGGCAGTTGAG
30 GATATTTTGTCCCATTTGTTGTAAAAAGTTCGCATAAAAAGCAGCTTCTGTTTGAAG
CTGCTTTTGTGTTGAATGGTTTAAACGAGTTCGGAATGGAGTTTGCCCAATAATGCGGAT
GCGTCTTTGCGGCGATATGCGCTGCCGTCTTTGTTGAGCAGGACGATGCGCGAGCCGTTG
GCGACAGGTTCTGCATAGACAATCAGTTCCGGCTGTTCCGGCAGGTTTCTCCGCTTTGCCT
TTGCCCAGCAGGCGTTTGAACAGGCGGGTTTTGTTCCGTAAGTGCATTGCTTTTCGTTT
35 GGGGCTTTTGAACAGGAAGGCGTGGCGTTTCGGTGTGTTGACCGACGAGGTCAGCCCG
ATGCGGTTCGAGGGCGAGCACGGTGCGCCCGCAGTTTCTGCCGTAGTCGCAAGACAATC
AGGCTTTTGCCTTCGATACGCGCCATTTTCGTTGGCGCGGGAAGGGTAGGTTTTTTTGCC
GATGCGTTTTCCGCCTGCTGTCCGTCAACGCCCAATATTGCATAAAGCGCGTCAGGAAA
GCGGCTTCGAGGTTGGGATCGGACGGGGAGGGCTGCCATACGGTCGTGCTTTTGTCTTTG
40 CCGCCGTACACTTCTTTTCATGGCTTTGTGGGCGAAGAAGATGTCGGAACGCCGTTTTTG
CCCTGTTTCGATACGGACGATGAATTTGTGCGCTCGCCGGTGGAGTAGATGCCGCCCAAG
CCGACTTTGTGCAAGAGGCGGCGCAAGCTGTCTTGGGGGATTTTGGCGCGGTTTTCCGCC
CACTCGGTTTCCATTTGTCCGATGGCGGGTTCTTCGATTGATGTCGAAGCCGTTTTCC
TGCCAAAAGGCTTTTCAGGAGCGGCCAGATTTTCGGCAGGAGACTTGCCGTGACAACGAGC
45 CAGCGTTGGCTGCCGTGCGCTCGAGGCGGACACCTTTGACGCTTTTCAATACTTCGGCA
TCGGCAGGCTGTTGGACGGCGGTTGTGCGGCGTTTTTCCAAATCGCTGGCGCGGACGGCG
CCCGAACCCGCGCAGGCGGCTAGAGGTTGCCTTGGTGGGGTTGTTCAAATCAGGTGGG
ACTTCAAGTTTGATCAGGCGGTGCGACCGGCTTTGGTAGTCGAGCTTGGGCTGTTTCGGTT
TTGCTGCCGAGCAGGCGGCAAGCCCGATGAGTGCAGGCGCGGCAATGACGGGTTTGATA
50 TGGGTTCGTGTGATCCTGTGTGATGATATTAAAGTGTGTTGCGTTATGCCGTCCG
AACGGTTTCGACGGCATGGCTATATTTAAAGTTGTCTGAGGCTTTTCAGGGCGGCGCGGA
CTTTTGTGTTCCGTTTTCCGTGACGGAACGAGCGGCGGACGCTGCGGTTTCGCATC
TGCCCAGGGCGGATACCGCCATTTTCGGTGCGGCGGGGCTGGGTTGCAGAACATGGTGT
CGTAAATCGGAATCAGTCCGTCGTTGAGTTTCGCGTGCAAGGGCGATATCGCCTTGAAGCG
55 CGGCGCGGCACATATCGGCAAGAGCTTGGGCGCGGCGTTGGCGGCTACGGTAATCACGC
CGTGTCCGCCGAGAGCATGAACGGCAGGGCGGTGTGGTGTGCGCGGAAAGGACGACGA
AGCCTTCGGGCGCGCGGTTGATGAGTTTCGATGTTGCTGCCGATGTTGCCGCTGGCTTCTT

TCACGCCGACGATGTTGGGGATTTCCGGCAAGGCGCAGGATAGTGTCTGTTAGTCATGCTGA
CGACGGTACGGCCGGGCACGTTGTAGATAATCATCGGAATCGAAGTGGCTTCGGCGATGG
TTTTGAAATGTTGGTAAATGCCCTTCTGGGAGGGCTGTTGTAATAGGGGACGACGGAGA
GGGTGTAGTCCGCCCCGGCTTTTTCCGGCGGCTTGGGAAAGGGCGATGGCTTCGACGGTGT
5 TGTTCGCCCTGTGCCGGCGATGACGGGGACGCGTTTGGCAACGTGTTGACGACGGCTT
CGATGACGGCGGTGTGTTCTTCGACGGAGAGGGTGGCGGATTCCGCTGTCTGTCGGACGG
CAACGATGCCGTCCGTGCCGTTTCAATGTGCCAGTTCGATTAAGTCGCGGAGTTGTTCTGT
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TACAGAACCCTTTATCAGTTGTGGTGTAGGGGCGGTAATGCTTCCGATTGTAGCCTACTT
10 TACCGCAGGTGTGAAATCCGGCGGGTTCAGATGTGGGGCGTTTGCGCCGAAAGGTATGG
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CGTCGGATTATAGTGGATTAAACAAAACAGTACGGTGTGCTCGCTAGCTCAAAG
AGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGT
CTGCGGCTTCGCGGCTTGTCTGATTTTTGTTAATCCACTATAAAATGTGGTAAACGTG
15 TGGCAGACGGATGCCGTCTGAAATGCAAAATGAAGCCGTGCGGCAGATTTCGCTACAAAT
CCGCGCTTGGAATTTTTCAACCTTTAAATAAGGAAATACAATGAGCGGTTCAGTTGGGCAA
AGGTGCGGATGCGCCTGATTTGGTGTACGGTTTGAAGACAGGCCGCCGTTCCGTAATGC
GCTCTTGAGCGCGGTTACCCATCTTTTGGCGATTTTGTGCCGATGATTACGCCCGCGCT
GATTGTGGCGGCGCGCTGGAATTGCCGGTGGAGATGACGGCGTATCTCGTGTGATGGC
20 GATGGTTGCGTCCGGTGTCCGCACTTATTTGCAAGTCAACCGCTTCGGGCCGGTCCGGTTC
GGGATGCTGTCCATCCAGTCGGTGAATTTTTCGTTTCGTTACCGTGATGATTGCGCTGGG
CGCGGGGATGAAGAGAGGGCGGTTTGACTAAGGATGCGATGATTTCGACGCTCTTGGGCGT
ATCGTTTGTGAGCGGCTTTTGGTGTGTTTTCTCGGCGTGGCTTCTGCCGTATTTGAAAAA
AGTGATTACGCCGACGGTCAGCGGCGTGGTCTGATGCTCATTGGTTTGAGTTTGGTACA
25 CGTCGGCATTACCGATTTTCGGCGGCGGCTTCGGCGCGAAGGCGGACGGCACGTTCCGGCTC
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GAAAAACCCGCTGTTGCCCATGAGCGGCATTGCGGTCGGGCTGATTGCCGGCTATATCGT
CGCGCTGTTTTTGGGCAAGGTGGATTTTTCCGCGCTGCAAAACCTGCCGCTGGTTACGCT
GCCCGTACCGTTTTAAATACGGTTTTGCTTTGACTGGCAGCGTTTATTGTGGCGGGCGC
30 GATTTTGTGTTGAGCGGTTTTTGGTGTGTTTTGAGCGGTCGGCGATTAAACCGCGACGGCAATGGTGT
CGACCAGCCGATTGAAGGCGAGGAATACACCAAACGCTGCCGCGCGGCGTGTGGCTGA
CGGCTTGGTGTCCGGTATTGCGACGGCTTTGGGTTCCGTCGCCGCTGACGACGTTTGGCGA
AAACAACGGCGTGATTGAGATGACCGGCGTGGCTTCGCGCCATGTGGGCAAATATATTGC
CGTGATTTTGGTGTGTTGGGTCTGTTCCCGTGTGTCGGTCGCGCGTTTACGACGATTCC
35 GAGTCCGGTGTGGGCGGCGCGATGGTTTTGATGTTCCGGCTTAATTGCGATTGCCGGCGT
GCGGATTTTGGTCAGTCACGGCATCCGAGGCGCGAAGCGGTGATTGCCGCAACGTCGGT
CGTTTTGGGCTTGGGTGTGCGGTTTTGAGCCGGAAGTGTAAAAACCTGCCGCTTGTGTT
CCAAAACCTCTATTTCCGCGGCGGCGATTACGGCAGTCTTGCTGAATTTGGTCTTGCCCGA
AGATAAAACCGAGGCGGCGGTCAAGTTTGATACCGACCACTTGAACACTGATTTTGAAA
40 ATGAATGCCGCTCTGAAACAGAATCCCTGTTTCAGACGGCATGTTTTTGGGCTTATACT
TTTTCGTTTTTTAATACGCGTTGTGCGCGTGTTCCTTAATACCATTCGGCGACACAG
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50 TGGCGCGCGCCTTTGCTGATGGCGTTGAGGCGGTCCGCATCGGCAAAATATACGGGATG
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55 AACAGGATAAACAAGATGGATACGGCGCAGCCGATTTTGAACGCCGTGCCGACGACAAGC
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10 CGCGCACATGGCGCAGGGTTCGAGGGTGATATATATGTCGCATCCGTCAAGGCGGTAGTT
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45 GTTGCAAATCATCGCGCAGGTTCAATTGCTGACATTCTTATAAACGTTGTTTCATATAGGC
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50 CAAAGCCTTGGTCATGAGCAGGTAAGTGTGGCGTCGAACCGTCCGACGAATTTGTGCGC
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5 CGAATGCCGTGCCCGCAACATGATGGTTGCCCGACAGCGCGTGGCAGATTAAAACCGCATT
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15 CGTTGCCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTTCGTGCGCTTGTCTGATT
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20 TTGACGTTGCGCTGTTTGCCAGTATAGACGGGATGGGATGCGGAAGAAGTATCCAGCGAA
AACAGCGGATATTCTTTGCCGTCTGTCCAACCATCGTTTTTCCGTGTGTTTCGGCACAG
GAGCGGATTAACCAGCCTTCATTGGCGCTGCTATCGAAAAAATTGACGGTTCGGTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 65>:

25 **gum_65**

GTGCTGTAAATTATAGTTTGGTGTGTTAAACGCAGTTAACAATATTTTGCTGGATTATAC
TGAATTACAGGGTCTTCCAATCGCTATCATTGAAAATATGAAAAAATTGCCAACGGT
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30 TAACCTTGCGTTTTTCCGCACCCATAGCTCAGTTGGAAGAGTGTAGTTTCCGAAGCTGGA
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TATTTTTTCAGACGGTCTTTTGA CT TCTCAAACCTCTATTTCAAGACTTCCGCAATGC
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35 TAGCCGAACATGCCGCGCTGTTTGATGAAATAAGTGAATCGCGATTGGGGATTGCGC
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40 GAGCGACAGGTTTTTTGAGAAGGAATTGCTGACGAACAAGGGCAATTCATTTCCACCGC
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45 GTAATATGGGTAAGTGCCGACCTCGAAACCTGCGCCTTCAAAAATGCCGCGATGGTTGTC
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50 GCTCACGGATTCCAACACGGGCTTTTGCCTTCGTGTCGAAATAAATGCCATGCTCAA
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5 GCGGCACGTTTCGACCGCATGGGTTTCCGCCAAGGTGTCCAAATTGGCGCGCAACGTTTCG
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10 TCAGCAGACAGACGGGCGATTTTGATGTTGCCGATGCGGTTGGCTTCGATATTCATTGC
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5 GCCGAAGAGTTGGTCGGGGTGGACTTCAAAGCTGTTGAGCACTTTGCCGCGCAGGGCAGG
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 40 ATTCATGCGCGACCTGACCGACGGGCGGAAACGCCGAACCTTCCGCCAAAACGCGTTC
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 AGCCGCGACAGTACAAATAGTACAGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGA
 45 ATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 66>:

gnm_66

50 GGGTTTATGAAGCGGCTTGCCGGCAACAGATCATAAGCAAACATACCGCTACTTTATG
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5 CCAGCCTGCAGAGCGGCGGCGTTGTACTTCGATTTTCGGCATCGTCGATGTATTTATAGGT
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10 GGCATCAGTCAAGTCCGTTTTGTGCGCCAAACCGCTCCATATGAAACATAAAACAAATC
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 45 TTATCCGGCAAAAGGGAAACCTTGAGGCTGCCAGCCCAATAAAAAAGCGCAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 67>:

gum_67

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 40 GCCCAGAGGGAATGTTTTCTCGATAAAGCTGCTGATTTTACTGAGGATATTCATAAA
 TAATGCGTTGCGTGTGTTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 68>:

GNMBA22F gnm_68

45 ATGACGnCATAGGGnTTTCCGTTTTCCGATAAAATTACCACAACCCAAAATCCCGTCATT
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 TTCTTTAGATTCTACGTCCTAGATTCCCGCTACGCGGGAATGACGATGGAAAGATTGTT
 50 TTGTGCTTCGAGATAAAATTTCTGCAGTTTTAAATAACnGATTCCCGCTGCTCGGGAATGA
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 TCGTTTCTAGATTCCCGATTTTCGnGGGAATGGATGGATn

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 69>:

gnm_69

```
5 CATGTTTGGATATCCATGCTGCTCCCTATGTACATAATAAAAAAATGGCCCCGTGGCCA
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5 CAGGTTTCCGTGCGGATGAATTCATCATTCCCGCGCAGGCGGGAATCTGGAATTTCAATG
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TTATAATTCATGAAGAAATCCAATGTTTTTTAAATAGAAGGATTCTAATAATATTTGGA
AAATTTATTTTTCTGATGAGTCTGTyGCGTATATAAAAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 70>:

5 **gnm_70**

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10 CCCCATCCTGCACACATGGCGGCTGCACACGGGCATCGATTATGCCGCACCGCAGGGAAC
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55 AACGGTTTATAACACAAAAATGCCGCTGAAACGTTTACAGCGGCATTTCCGCGAGTTTC
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 CTTTCGATCAGGGTAACTTTCAAACCGCTGCCGGCAAGTTGCGCTGCAAACTTAACCCG
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 GACGGATGCCGATGATTTAGATGGTATTTG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 71>:

gum_71

CCGGTTTCGAGTAGTCAGTTAATAGTTTCTCCTCTATTTCTCCTTTGTAGACTTGGCACAC
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 25 TATGTTTTCATTTAGGTGTCAAACCGCATATCCGGTCTGAAATATTCAATCCAAATCCAAA
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 30 ACAAAAACCAATAAAGGTTTGCCCAACAGATGGGGATTGAGATGGGCGTGATAACCGGAA
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55 AATACTCTTACGGCAATAACTCAACCGATTCCGCATCCACATAAGGAGGATTGGAAACA
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 CAAACCCGACCGGACCGTACGGATGCCGTCCCGCCATCACCGACATTTTTTCCGGGCA
 40 AAGCAAACATTTTTTCCGGGCAAGCAAAACCCCCGAATAATCGGGGGTTTTCTGAATG
 GGTGTTTGGCAGTGACCTACTTTCGCATGGAAGAACCACACTATCATCGGCGCTGAGTCG
 TTTACGGTCTGTTCGGGATGGGAAGGCGTGGGACCAACTCGCTATGGCCGCCAAACTT
 AAAGTGTACAAATCGGTAAGCCTTAATCAATATATTCGGTAATGACTGAATCAGTCAG
 TAAGCTTTTATCTCTTGAAGTTCTTCAAATGATAGAGTCAAGCCTCACGAGCAATTAGTA
 45 TGGGTTAGCTTCACGCTTACCGCGCTTCCACACCCACCTATCAACGTCCTGGTCTCGA
 ACGACTCTTTAGTGCGGTTAAACCGCAAGGGAAGTCTCATCTTCAGGCGAGTTTCGCGCT
 TAGATGCTTTCAGCGCTTATCTCTTCCGAACCTAGCTACCCGGCTATGCAACTGGCGTTA
 CAACCGGTACACCAGAGGTTCTGCCACTCCGGTCTCTCGTACTAAGAGCAGCCCCGTCA
 AACTTCCAACGCCACTGCAGATA
 50

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 72>:

gnm_72

TAAATGGGACTATAAGCAGGAAGGCTTAACCAGAGCCGGTGCAGCGATTGTTACCATAAT

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CGTAACCGCACTGACTTATGGATACGGCGCAACCGCAGCGGGCGGTGTAGCCGCTTCAGG
AAGTAGTACAGCCGAGCTGCCGGAACAGCCGCCACAACGACAGCAGCAGCTACTACCGT
TTCTACAGCGACTGCCATGCAAACCGTGCTTTAGCCTCCTTGTATAGCCAAGCAGCTGT
ATCCATCATCAATAATAAAGGTGATGTCGGCAAAGCGTTGAAAGATCTCGGCACCAGTGA
5 TACGGTCAAGCAGATTGTCACTTCTGCCCTGACGGCGGGTGCATTAAATCAGATGGGCGC
AGATATTGCCCAATTGAACAGCAAGKTAAGAACCGAAGTGTTCAGCAGTACGGGCAATCA
AACTATTGCCAACCTTGGAGGCAGACTGGCTACCAATCTCAGTAATGCAGGTATCTCAGC
TGGTATCAATACCGCCGTCAACGGCGGCAGCCTGAAAGACAACCTTAGGCAATGCCGCATT
AGGAGCATTGGTTAATAGCTTCCAAGGAGAAGCCGCCAGCAAAATCAAAACAACCTTCAG
10 CGACGATTATGTTGCCAAACAGTTCGCCCACGCTTTGGCTGGGTGTGTTAGCGGATTGGT
ACAAGGAAAATGTAAGACGGGGCAATTGGCGCAGCAGTTGGGGAAATCGTAGCCGACTC
CATGCTTGGCGGCAGAAACCTTGCTACACTCAGCGATGCGGAAAAGCATAAGGTTATCAG
TTACTCGAAGATTATTGCCGGCAGCGTGGCGGCACCTAACGGCGGGCATGTGAATACTGC
GGCGAATGCGGCTGAGGTGGCGGTAGTGAATAATGCTTTGAATTTTGACAGTACCCCTAC
15 CAATGCGAAAAGCATCAACCGCAGAAGCCCGACAAAACCGCACTGGAAAAAATTATCCA
AGGTATTATGCTGCACATGCAGCAGGTGCGATGACTAATCCGAGGATAAGGATGCTGC
CATTTGGATATAGCAATATCCGTAATGGCATCACAGGCCGATTGTGATTACCAGCTATGG
GGTTTATGCTGCAGGTTGGACAGCTCCGCTGATCGGTACAGCGGGTAAATTAGCTATCAG
CACCTGCATGGCTAATCCTTCTGGTTGTACTGTCTGTCATGGTCACTCAGGCTGCCGAAGCGGG
20 CGCGGGAATCGCCACGGGTGCGGTAAACGGTAGGCAACGCTTGGGAAGCGCCTGTGGGGGC
GTTGTGCGAAAGCGAAGGCGGCTAAGCAAGCTGCTCCTAAAGAAACAATAAACAATTTGGC
AAATTTAGCCAAAGCAGAACAGCAGATTTTATTCGGTATTGCCAACGGCATACGCAACT
GGATGCATGGAAGACGGGATTTAACAATAGAGTAAGGAAAGGAGCAGGCTTGCTTGATGC
AAGTAATATTCGATAACCATTAACGGAAAAACCATCAAACCTGTACAAGCCATAAGCTT
25 AAAGGGAGCACCCGTTTACAGCGCGCTAAGCGAACAGGAGATTTTGGCGCTTATCGGCA
GATGACTGGCCAGAATCCGAATTTTAGAGTTTGCCTGACGGAAGATTAGCAAATGGCAT
TATCAGTACTGGAGAATGGGCAGGAACAAAATTGCATTAAGAAATTTTCAAAAACAGA
GAATTCAACTCAAGCACGATGGACATTAGATTTGCAGAATCCTCCATCATTTATTAAAGG
TACTAAATTGGAGCTTAAATTCCAATAATTTACAAGGATTTTACCGTGGATGAGAAACA
30 AAAAAATTAAGATTCTTGATTTTCAAATCGATTTATCCTCAATTTTAACTCTTATAAAAA
TCAAATGGGTATTAATATTCAAGATGAAAACCTTAAAAACAATTTCTGTCTTTTATGGA
AGAAGTGATTAATGACGGTTCAATCCGTTTACATGATTATACCGACGGTATCGGAATTCC
TCTAACTGGAACCTTCAAAAGAACAGTGCAGAAATTGAAAGACATATGGCCTACTTTGGA
AGATGCCCCAAGCAATATGGCCTGAAGACCCCTTGGTATTACTTAGAATGGCTTGGTGGGA
35 TATTGCGTGTCCAATAGATTTGGCCGATTTGCCGAATATTGATATTTATGAGCAAGCGTA
GGTATGGTTAGCCGCTTTAGCGCGCTAACCGTACGCATATCAGCAAACCTTTATAAAATA
ACAAGGCCGTCTGAAATCTGTTTTCAACTTTTTTCAGACGGCCTTGCAACTTGGCATTTC
ATTCTGACGGTTACGCgCTAAAGGCGGCTAACCGTACCTACGAGCTCTGATAAAAATGAT
TTATGGAAGCAAGCTGTAGCCTGCATGAAACCTAAAATCCATGCGTAAGGTGTGTGCTTC
40 AGCGCGCACGCGTTCCATGATTTACGGCTCAATGCCGTCTGAAAAGCTCACAATTTTCA
GACGGCATTTGTTATGCAAGTAAATATTAGATTCTCTGTATACTGTTTCAGACGCGTGCG
TGCTGAAGACACCTCCTACGCTTGCTGCAGAACTTTCGGGTAAAACCGGTGTGAGCATT
GCGCGCCGTATGCCAATGAAACAGCCGCATCCTGCTGAGCACCACGGATATCAGTTCGG
AAAACGGCAAATCAAACCTGCAATCCTACGGCGACCACTTCTACTACGCCGGACAGGGTG
45 AGCTCTACACCTTCGATAAACGCAGCTATAAAACCGGTAAGTGGTACAACTAAAACATG
TTACTGAAATCAAAGAGCATAAAACGCCAAAGCCGACCCGGTGAGCCTCAGTGCGTCAC
AAGGTATTGAAATCAAATCCGGCGGCAATATCGGTGCCACGCCACCTTGTTGATGCAC
CCCGCGGCTCCGTTAAATCGAAGCCGGACGTGGGCTGGTTCTCTATGCCGTGGAAGATC
TCAACTACGACAACTTGACACCCGTACCAAGCGCAAATTTATCGGCATTACCTACGACA
50 AGGTGCACGACACCACCCACCCATGAAAACCGCCCTGCCCTCAAGGGTAGTTGCAG
AATCGGCCAACCTGCAATCAGGCTGGGACGCCAACTGCAAGGCACCCAGTTTGAAACCA
CGCTGGGCGGCGCAGCCATCCGTGCAGGTGTAGGCGATCAGGCACGAGCAGATGCCAAGA
TTATTCTTGAGGAGCATAAAAGTAGTGTGCGCACTGAAACAGTAAGCAGTAGCAAATCTG
CCCTCTGGCAGAAAACAGGCCGGACGCGGCAGCAATATCGAAACCTTGCAACTGCCAAGTT
55 TCACAGGCTCCGTTGCGCCCGTACTCTCTGCTCCCGGGGGCTACATTGTGACATCCCCA
AAGGCAATCTGAAAACCGAAATCGAAAAGCTGGCCAAACAGCCCGAGTATGCCTATCTGA
AACAGCTCCAAGTAGCGAAAAACGTCAACTGGAACAGGTGCAACTGGCTTACGATAAAT

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GGGACTATAAGCAGGAAGGCTTAACCAGAGCCGGTGCAGCGATTATCGCGCTGGCTGTTA
CCGTGGTTACTGCGGGCGGGAGTCGGAGCCGCACTAGGCTTAAACGGCGCAGCCGCAG
CAGCGGCCGATGCCGCCCTTTCCTCACTCGCTTCTCAGGCTTCCGTATCGCTCATCAACA
ATAAAGGCGATGTCGGCAAAACCTGAAGGAACTGGGCAGAAGCCGCACGGTAAAAAATC
5 TGGTTGTAGCGGCGGCAACGGCAGGCGTATCCAACAACTCGGTGCCTCTTCCCTTGCCA
CTTGAGCGAAACCCCTTGGGTAAACAACCTCAACGTTAACCTGGCCAATGCGGGCAGTG
CCGCGCTGATCAACACCGCTGTTAACGGCGGCAGCCTGAAAGACAATCTGGAGGCAAATA
TCCTGGCGGCATTGGTGAATACCGCGCATGGGGAGGCGGCGAGTAAGATCAAAGGACTGG
ATCAGCACTATGTCGCCCACAAAATCGCTCATGCCGTAGCGGGCTGTGCGGCTGCAGCGG
10 CGAATAAGGGCAAAATGTCAGGACGGCGCATCGGTGCGGCTGTGGGTGAGATTGTCGGGG
AGGCTTTGGTTAAAAATACCGATTTTAGCGATATGACCCCGGAACAATTAGATCTGGAAG
TTAAGAAAATTACCGCTATGCCAACTTGGCGCAGGTACAGTTGCAGGCGTAACGGGAG
GAGATGTCAATACTGCTGCACAAACCGCACAAAACGCGGTAGAAAATAATGCGGTTAAAG
CTGTTGTAACCTGCTGCAAAAGTGGTTTATAAGGTAGCCAGAAAAGGATTAAAAACGGGA
15 AAATCAACGTTAGAGATTTAAACAGACGTTGAAAGACGAAGGTTATAATTTAGCCGACA
ACCTGACCACCTTATTCGACGAAACATTGGATTGGAACGATGCCAAAGCCGTTATTGATA
TTGTCGTGCGAACAGAGCTGAATCGCGCTAATAAAGGGGAAGCGGCACAAAAGGTCAAGG
AAGTTTTAGAAAAAAATCGTCCTTATATCCCTAATAAAGGTGCTGTACCGAATATGAGTA
CATAATGAAAAATAATCCTTTTGGAAAAACAGCTGGCTCAAATTTAGAAAAGACAACGC
20 TTCCGACGCAGCAAGGGCAGTCTGTCTTCTTGGTAAAAAGAAACCAAGGGTTATTAAAAA
GCCGGGTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 73>:

gnm_73

25 GATGATGACGAAATTTACAGACTGTACGCGGTCAAACCGTATTAGCCGCCAACCCACAG
GGGATACATCTTGAAAAACAACAGACAAATCAAACCTGATTGCCGCCCTCCGTGCGAGTTGC
CGCATCCTTTTACGGCACATGCTGGACTGGGCGGACTGAATATCCAGTCCAACTTGACGA
ACCCTTTTCCGGCAGCATTACCGTAACCGGCGAAGAAGCCAAAGCCCTGCTAGGCGGGCGG
CAGCGTTACCGTTTCCGAAAAAGGCGTACCGCCAAAGTCCACAAGTTGGGCGACAAAGC
30 CGTCATTGCCGTTTCTTCCGAACAGGCACTCCGCGATCCCGTCTGGTGTTCGCGATCGG
CGCAGGCGCAGAGTACGCGAATACACCGCCATCCTCGATCCTGTCGGCTACTCGCCAA
AACCAATCTGCACTTTCAGACGGCAAGACACACCGCAAAACCGCTCCGACAGCAGAGTC
CCAAGAAAATCAAACGCGCAAGCCCTCCGCAAAACCGATAAAAAAGACAGCGCGAACGC
AGCCGTCAAACCGGCATACAACGGCAAAACCCATACCGTCCGCAAAGGCGAAACGGTCAA
35 ACAGATTGCCCGGCCATCCGCCGAAACACCTGACGCTCGAACAGGTTGCCGATGCGCT
GCTGAAGGCAAAACCAAATGTTTCCGCACACGGCAGACTGCGTGCGGGCAGCGTGCTTCA
CATTCCGAATCTGAACAGGATCAAAGCGGAACAACCCAAACCGCAAACGGCGAAACCCAA
AGCCGAAACCGCATCCATGCCGTCCGAACCGTCCAAACAGGCAACGGTAGAGAAACCGGT
TGAAAAACCTGAAGCAAAAGTTGCCGCGCCCGAAGCAAAAGCGGAAAAACCGGCCGTTTCG
40 ACCCGAACCTGTACCCGCTGCAATACTGCCGCATCGGAAACCGCTGCCGAATCCGCCCC
CCAAGAAGCCGCGCTTCTGCCATCGACACGCCGACCGACGAAACCGGTAACGCCGTTTC
CGAACCTGTGCAACAGGTTTCTGCCGAAGAAGAAACCGAAAGCGGACTGTTTGACGGTCT
GTTCCGGCGGTTCGTACACCTTGCTGCTTGCCGGCGGAGGCGCGGCATTAATCGCCCTGCT
GCTGCTTTTGCGCCCTTGCCCAATCCAAACGCGCGCGCCGTACCGAAGAATCCGTCCCTGA
45 GGAAGAGCCTGACCTTGACGACGCGGCAGACGACGGCATAGAAATCACCTTTGCCGAAGT
CGAAACTCCGCAACGCCGCAACCCGCTCCGAAAAACGATGTAAACGACACACTTGCCCTT
AGATGGGGAAATCTGAAGAAGAGTTATCGGCAAAACAAACGTTTCGATGTGAAACCGATAC
GCCTTCCAACCGCATCGACTTGGATTTCGACAGCCTGGCAGCCGCGCAAAACGGCATTTT
ATCCGGCGCACTTACGCAGGATGAAGAAACCCAAAAACGCGCGGATGCCGATTGGAACGC
50 CATCGAATCCACAGACAGCGTGTACGAGCCCGAGACCTTCAACCCGTACAACCTGTGCA
AATCGTCATCGACACGCCCGAACCGGAATCTGTGCCCAAACTGCCGAAAAACAAACCGGA
AACCGTCGATACCGATTTCTCCGACAACCTGCCCTCAAACAACCATATCGGCACAGAAGA
AACAGCTTCCGCAAAACCTGCCTCACCTCCGACTGGCAGGCTTCCTGAAGGCTTCCTC

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GCCCCAAACCATCTTGGAAAAAACAGTTGCCGAAGTCCAAACACCGGAAGAGTTGCACGA
TTTCCTGAAAGTGACGAAACCGATGCCGTGCGGAAACTGCGCCTGAAACGCCCGATT
CAACGCCGCCGACAGCATTGTCCGCATTGCTTCAACCTGCCGAAGCACCGTCCGTTGA
GGAAAATATAACGGAAACCGTTGCCGAAACACCCGACTTCAACGCCACCGCAGACGATTT
5 GTCCGCATTACTTCAACCTTCTAAAGTACCTGCCGTTGAGGAAAATGCAGCGGAAACCGT
TGCCGATGATTTGTCCGCACTGTTGCAACCTGCTGAAGCACCGGCCGTTGAGGAAAATGT
AACGGAAACCGTTGCCGAAACACCCGATTTCACGCCACCGCAGACGATTTGTCCGCATT
ACTTCAACCTTCTGAAGCACCTGCCGTTGAGGAAAATGCAGCGGAAACCGTTGCCGATGA
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10 CACTTTGGAAACGCCGTGATTCCAACACCTCTGAGGCAGACGCTTTGCCCAGCTTCCTGAA
AGACGGCGAGGAGGAAACCGTAGATTGGAGCATCTACCTCTCGGAAGAAAATATCCCAAA
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ATACGACCTTGCCGAAATGTATCTCGAAATCGGCGACCGCGATGCCGCTGCCGAGACAGT
GCAGAAATTGCTGGAAGAAGCGGAAGGCGACGTACTCAAACGTGCCCAAGCATTGGCGCA
15 GGAATTGGGTATTTGATTCCCAACTGCCCTTTCGCAGATCAAGGATGCCGTTTCAGACGG
CATCTTTTTTGCCTTATCGGTGTAACGGATAAAGTTTGAACCGGCACAGGCTCAAACAGC
AGGTCGACGGCAACAAAATGCCGCTGTAACCCCTAAAGGCTTCAGACGGCATTGGCGGC
GGCGGTATCAGGCAGTTTGATAGGCAACCGAATCGTCGCCGCTTTTCTTTTGAATGAAC
CGATTTTGTATCCGTGCGGGTCTTCGACGAAAGGCTATCACGGTTGTGCCGTTTTCATCG
20 GGCCGGCTTCGCGGACGACGTTTCCGCCCTGCCGCTTCACACGTTTCGACGGCTTCGTAGG
CATCGTCCACTTCAACCGCGATGTGTCCGTAGGCGTTGCCCAAGTCGTATCGTTCCGTAT
CCCAGTTGTGCGTCAGTTCCAAAACCGTGCTGTGCGTTTCATCGCCGTAACCGACGAAGG
CAAGGGTAAATCTGCCTTCGGGATAATCTTTTCGGCGGAGCAGTTTCATACCCAAAACGT
TTTGGTAGAAATCGAGGGATTTTCGAGATTGCCACGCGGAGCATAGTATGGAGTAAGCG
25 CATTTTTTGTGTTCCCTTCGGTGGTGGTTAAACTTCGATTTTATTCGGGGTAAACGCTCG
CCATTTGTTGACGGCGGGCAGTGCCAGAAAAGACTTGGGATTTGAAGTGGCAGTTGCG
GCAACGGTACATCACGCTGCGCTGTAGCTGCCGTCGATAACCGAACGCATCATGTCCGC
ATCGGCTTTTCAAGCCGGATTTCATATCGCTGAGTTTCAAACCGAGCAGGCGGTACACGCC
GTTAAGGTGCGGCTTGCGGCGGACAAGCTCGACGGCGGTTTGCGCGGCTTCTTCTCGCA
30 CTTAAGCAGCAGGGATTTCTCGTACACGACATTGATCAGGTCAAGTTTCGGGAAACGTCTG
CATATATCCTGTCAGACGGTTCAAGCCTTCTTCAGGTTTTCCCTGCGCGGCATAGGCTTC
GTAAAGCTTCTCGCCGACCATGCTCAAGTATGCATGGTTTTGCTGCTCGATGGCGGCATA
GGCTTCGAGCGGCGCAGGGAATTCCTTGTGCGGTGTTGATGTCGCCCAAAATCATGTT
GGCGCGGGTGCATTTTTTGTGCGCTTCGAGTGCTTGGCGACATTGAAACGCGCGACATC
35 GAAATTGGAATTGAACAGCGCGGCTTGGGCAAGTTCGCAATAAACTGGGCGATTTCAAA
CTGATAGGTCTGATCGTCATGGCTGAGCAGCCGGGCGGTTTCAACCGCTTTTTCCCAATC
CCTGTCTGTGTTGGTAGATATTGAGCAGGTGCTGTCTGGCTTCACGCGCCATTTTACCGTC
TTGCAGCCCCAAAAAATCTGTTCCGGCAGATCGACCAACCCCGCACTTTGGTAGTTTTG
CGCCAATTCAAACAGGACGCGCGCGCGCTTTTCGCCGACCGTATCGGGAGAATCGAGCAT
40 TGTCCGGTGTATGTTGATGGCTTTGTGCTTTTCGCCACGCTGGCGGTAAAGTTTGCCGAG
GGTGAGGTTCAAATCATACGATTGCGGCGGCGCGTTCGACGACTTCGCCCAACTCCCTTGC
CGCGCGCCCGCTGTTGCGGTCGACCAAGCGTCCAAGCTTTTATAAAATCCCGAAGGGAT
GCTTTTTGCTGCTTCAATACGGTTTTTCATATCCACGCGGGCGGCAAACCGCCCATCGC
45 GAAGAAGACGGGCAAAGGATAATCGGCAGCAGGATAATCCACAATTGCTGTCCATATC
GGCTTTCTTAAGGCTGTTTGGTAGATTTCGGGCGCATTTTGCGCCGGTGGTGGGTCAGCT
CCTTCCCCGTCAAACGCGCATTTTTCTTTACTTCGGCACGCAACCTGCCGTTCTCGCCAC
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50 TGACGGTATAGATAAGTTTCATGTTTGTCCGTAATAAAAAACGCCGCCAGACAGCTTC
GCACTCTGAACCAAGATTGCGCTAGTTTAAACGATTGACAGGTTTCGGATAGGATGCGG
CAGCGTGTTCGGACGACATACGGAGTATGCGATTGCCGACAATTTTACCAATACACCGT
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55 AATGATCAAAACCGTGTTCGAGGCGTATCTTTACAATCTTCAAATTCAAACCGTTCATTG
AAACATCAGGAATAAGAAAGGCTTTACATCATGAGCAGACCCGTACCGCCGCTATTTCGG
CAGCGTTTTTCACAGTCAAATGCCGCTCCTCGCCTACCGCGAAGGCAAATGGCAGCCGAC
CGAATGGCAATCTTCCCAAGACCTCTCCCTCGCACCGGGCGCGCACGCCCTGCACTACGG

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CAGCGAATGTTTCGAGGGACTGAAAGCCTTCCGTCAGGCAGACGGCAAAATCGTGCTGTT
CCGTCCGACTGCCAATATCGCGCGTATGCGGCAAAGTGCGGACATTTTGACCTGCCGCG
CCCCGAAACCGAAGCTTATCTTGACGCGCTAATCAAATTGGTCAAACGTGCCGCCGATGA
AATCCCCGATGCGCCTGCCGCCCTGTACCTGCGTCCGACCTTAATCGGTACCGATCCCGT
5 TATCGGCAAGGCCGGTTCTCCTTCCGAAACCGCCCTGCTGTATATTTTGGCTTCCCCCGT
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10 ACCGCTGACCGACGAGTTTTTGACGCGGTAACCGCGATTCCGTAAGTACGCGTTGCCAA
AGATTTGGGCTATACCGTCAGCGAACGCAATTTACGCGTTGACGAACTCAAAGCTCGCGT
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15 AGTGCTGATGCTTTAAATAAAAAATGCCGTCTGAAACCCGTTTGGCGTTTCAGACGGC
ATTTTCGCATCCGAACCGTTTCCGCTGCACCTGCAGCAAGTCGGCACAAGGCAATCGGT
TAAAAACAAGCGTCCGCATTTCCCATCCCGCTGCCGTAAGTCGGGCATTTCCCTAGAAAT
ACGCTTCAGACGGGCAAAACGCGCGCCGAAACCGATATGCGGCACGGACGGCGCACGGATT
TGAAAACCGCGGATTATCCCTCGGTGCTCAAGGCATTAATGCTGTAACCGCGTCAACGT
20 AAGTGATTTGCGCGGTAATGCCGACGACAGGTGCGACAGCAGGAAGGCGGCGGTATTGC
CGACTTCTTCAATGGTAACGTTGCGGCGGAGCGGGTTGTGGGCGGCGACGTGTCCAAGA
GTTTGCCGAAATCGGCGATGCCGAGGCGCAAGCGTTTTAATCGGGCCGGCGGAAATAC
CGTTGCAGCGGATGCCCTCTTTACCCAGACAGGCAGCGGTAAAGCGGATGCCTGCCTCAA
GGCTGGCTTTTGCCATACCCATCACGTTGTAATTCGGAATCGCGCGCACCGCGCCCAAGT
25 AGCTCAGGCGACGATGGCGGAATTTCTGCCGCGCATCATCGGACGGGCGGCTTTTGCCA
ACGCGGGCAGGCTGTATGCGGAAATTTCTGTGCGGTGTTGAAACGCTTCGCGGCTGATGC
TGTCGAGGAAGTCGCCGCTCAAGGCTTCTTTCGGCGCAAACCGATGGAATGCACCAAAC
CGTCCAAGCCGTCCCAATGTTTGCCCAAGTCGGCGAACACTTGGTTGATTTTCGTGTCGC
TGCGGACATCGCAGCGGAATACAAGTTCGGAATCCAATTCGCCCGCCATTTTGCGGACGC
30 GCTCTTCCAGTTTGTCCACAACGTAGGTAAACGCCAGTTCGCGCGCTTGTTCGCGGACAG
CTTTGGCGATGCCGTAAGCGATGGAACGCTCGGAAATCATGCCGGAATCAGAATTTTTT
TGCTTTGCAGAAAACCATTTTGTATCCTTCAAATAGTGTTCGGTTCTGTTCTAAACCGTT
GATTATCGCAAAATTTCCCTGTTTCTGTGTTTTCACGTTGACGCGTGCAACGGCAATGC
CGTCTGAAGCGGATTTTCAGACGGCATTGGACGTTTCAAATACGGTTTAAGGCATCAGATG
35 CCGCGCAACAATTCGTTGACGCTGGTTTTTCGCACGGGTTTGCAGCGTCCACGCGTTTGACG
ATGACGGCGCAGTAAAGGCTGTGGCTGCCGTCTTTGGAAGGCATACTGCCGGATACGACA
ACCGAACCTGCCGGTACGCGGCCTTGATAGATTTGCGCGGTTGTACGGTCAAAGATTTTG
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TCAACGATTTCAGAACGCGCACCGATGAAGCAGTTGTCTTCAATGATGGTGGGTGCGGCC
40 TGCAGGGTTTCGAGTACACACCGATGCCGACGCCCCCGCTCAAGTGACGTTTTCACCG
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GCGCCGATGTTGACATAAGATGGCATCAGCACGACATTTTTCGCCACAAAGCTGCCGCGT
CGGGCAACCGCACCCGGAAGTGCAGGAGCCTGCGTTTTTGAACCTCGTCTTCAGACCAG
TCGGCAAACTTGGTCGCGCACTTTGTGCAAGTATTTGTTACGCGCGTTCGTTGAGGACTTCG
45 TTGCTTTGGATGCGGAAGGACAGCAACACGGCTTTTTTCGCCCATTCGTTGACTTTCCAC
TCACCCACGCCCCAACGTTCCGGCAACGCGCAGTTTGCCGGAATCGAGTTGGCGGATGGTT
TCAAACACGGCTTCTTTGACTTCGGGAGTAACGGTGGTCGGGGTGATGTCCGCGCGGTTT
TCAAAGGCGGTTTCGATAATGTTTTGCAAAGACATAATATTTCTTATGTGAGATGTTTT
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50 CCACGCAACGCATATTCGTACGCAATACGCGAGCGGTTGCCAAACATTGGCGTTTCGGA
ATCGGGCAGGCGGACGATTTGCCTTTTCCGCGCCCCGAATCAATACAGAAAGCGGCGAGT
ACTTTTATGCCGCGCCGCGCCTTTTCAGACGGCATTTCGCGGTAACCGCCATCAGCCCTT
CGGTGCGAGGCATCGGTACGGACGTGCCGCTTCCAGTTCCGCGATGATGGTTTTTGCCA
ACTGTTTGGCTATTCCACCCCCACTGATCGAAGGGTTGACGTTCCATATCGCGCCTT
55 GGACGAAGGTTTTTGTTCGTAAGCCGCCATCAGCATACCCAAATGTAGGGCGTGAGGC
GGTCAATCAAATGCTGTTGCTGGGGCGGTTGCCGGGGAACCTTTGTGCGGCGCGAGGC
GTTTCGCTTCCGCTTCGGGCAAATCTGCCAGTTCCGCGCGTGCTTCGTCCAAGGTTTTGC

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CCTTCATCAAGGCTTCCGCTTGGGCAAAGGCGTTGGCAACGGTAAAACGGCTGCGTCCGT
CCTCTCTGCCCTGCGCCGTATCGGGACGATAAAATCGCAGGGAATCAGGCGCGTGCCCTT
GGTGGAGCAGTTGGAATAGGCGTGCTGGCAGTTGACCCCTTCACCACCGAACACGATGC
CGCCCGTTTTGCACACGGCGGGACTGCCGTCTGAAGCGCGGCTTTTGCCAAACTCTCCA
5 TATCGAGCTGGTTAGCCACGCCGCGCAGGCGCAGGTTGTGGCTGTACGGAACGGCGG
TCTGCCCGTCCGCGTGCTGGAAATTTGTTGTACCACACGGCAATCAGTGCCATTAAAACGG
GGATATTATGACGCGTCGGCGTACTGAAAAAATGCCTGTCCATCGCGTGCGCCCCCGCCA
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10 AGACGGAATAGCGTCCGCCACCCAGTCGTACATCGCAAACACGCGTTCGCCCGGATAC
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15 GTCTGAACGGCTCAAGTGCCGTGCACGCACATTGCCGGCCGAGGTCGGATCCGCCTATGC
CGATGTGGACAAAATCCGTAATCCGTTTTCCGGTTATCCCTGATACGAACCGTCGTCCA
AACTGTGTGCAAACTTCAACGCACGATTTAACTCGCGGCGGATTTCGGGCAACACGTCCC
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20 AATCCGCGCGTCGGCAAGATTGCAGAGCAGTTGCAGCGTATCTTCGCCAAACGGTTTTT
TGCTGTAATCGAACACATCCCGTCCAAACGCTCGTGATACGCTCAAACCGGTCCGGTT
CGCAGGCAAGCGGTCCGCAAAAGGACATGACGCGTATCTGATAATGGCGTTCGAGCG
CATACCATGCACGGGTAAAAGCATTATCTGTTTTCCCTTGATTTTTCAGAACCGGATTAA
AATGTAGCAGAATGTAGTTTAAACAAACGGCAGCGGCTTTGGCGAATCTCCGGAACACCGC
25 CCGCCGCGTCCAATAGCACCTTATTTCCATATGGCGGAAATGCCCTCCGGCCGGCATTG
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ATAAGGTATGATGCGCATCCGATTCTGTCCCGTTTGCCGCCGAGCGGGATGTCCGGCG
TTTTCATCTTACCGGGAACACGCCGCTACTGTTTTTTAACGATGTTTCTTACATTTTATT
CCAATTACTTTACGGGGCTAGAATATGGCTAAAAACGGAGGATTTTCTTTGTTCCGAAAG
30 AAAGAAAAACGCTTTATCTTTGAAGGCAGGCATTCCGCCTCCGACAACTGGTCAACGGC
GAAGTATCCGCGTTTACCGAAGAAGAGGCGCGCAAAAACTGGCAAAACGCGGCATCCGC
CCGTTGCAGATTACCCGTGTGAAAACAAGCTCCAAGCGCAAAATCACACAAGAAGACATC
ATCCGTTTTACCCGCCAGCTGTCCACGATGATTAAAGCGGGCCTGCCGCTGATGCAGGCA
TTTGAAATCGTGGCGCGCGACACGCCGCTCTATGACGGAAATGCTGATGGAATC
35 CGAGGCGAAGTGGAACAGGCGAGCTCGTTGAGCCGCGCATTTCTCAAACCAACCAAAATAT
TTCGACCGCTTCTACTGCAATCTGGTTGCGGCGGGCGAAACGGGCGGCGTATTGGAAAGC
CTGCTGGACAAATTGGCAATTTACAAAGAAAAAACCAGGCCATCCGCAAAAAGGTAAAA
ACCGCACTGACCTATCCGGTATCCGTCATCGCGCTCGCCATCGGTTTGGTATTCTGTATG
40 ATGATTTTCTGACTGCCCGCTTTAAAGAAGTTTACGCCAATATGGGCGCGGAGCTTCCC
GCACTGACCCAAACAGTGATGGATATGTCGACTTTTTCTGCTCATAACGGCTGGATGGTG
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55 AAAATTTTCAGATGGCAAAAAGCCCTCCAGCACTGAAAGGCCTTATATCGGAAACTTCC
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GAGATTTTAACCCCTTCCGACGACAAAGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 74>:**gnm_74**

5 GGTATAGACACGTCCGTTGCGTTTCAGAATGCCGAAGACAACCACTTTTCCTGCTGCACC
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10 GTTATCTTCATATTTTCGAGGGTAACATATCTGCTAATCTAGTACAGCCCTTAAATTTAG
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15 CGCATCGGGCATCGTTTTGCCGGGTGCGGCCGCCGAAAAACCGATATGGGCGAAGTCAT
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5 GTTGCTGTTATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTCAGCTCAAAGA
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5 TCTACGCCCTGCGACTGTGATAATGCCTTTTTGAGCGTCTTTTTTCATAAAATGGCAATAGG
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TGTCTGCGGCTTCGCCGCTTGTCTGATTTTTGTTAATCCACTATACAAAGACAAAAAC
40 ATCGACCTCCGTGTCGACTGATTGCCGTTGAAGCAATAAAATGCCGTCTGAACCTGAAA
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45 ATAAACAGAACTGGTCAGACCAAACTCGCAATCGTTTGCCAAGGCGATGACTTGGTCGAG
CGTGTGAAAGCGGAAACGGGCAGCACGGGGCCGAAGGTTTCTTCTTCATAATGTCCAT
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GGCTTTGACGGCGCGTTCTTCAATCAGCGGGCCCATTTCCAGCGCGCTGCTTCGGCTTC
50 GGCAGGGTTGCCGTAGCGCACGCCCTTTCATCGCGGCGGTCATTTTTTCAATGAATGCGTC
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GACGCGCGAAGCCAAGATGGATTTACCGCCAAGTCCAAATCCGCATCTTTCAAACGAT
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55 GGGGACAAGGCATTGCCGATTTCCGCGCGGGACCGTTCCACAGTTGAACACGCCCTGC
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GCCTTGGGCGATTTTACGCAAAATACGCGCCGCTTCGACCGCAGGCAGACGCTCCCAAGC

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CGGTTGCGCCGCACGCGCCGCCGCGACGGCGCGGTCAACGTCGCCCTTGCCGCCTTTGGG
TTCGCGGGCGATGGCCTCTTCGGTGGACGGGTCAATACGTCGCGCCATTCGCCGTTGAA
ATCGTTTTCAAAGCGTCCGTTGATGTACATGGCCAATTGTTTCATTTCGGGTTCTCCAGT
TTTGTAGTTAGATGTAGTTTTAGTTTATTCCCAAATAAATTGC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 75>:

gpm_75

10 GATCTAAGCGACACAGCCGGGGCGAACACTGAGGCAATCTACACTTCAGACGGCATTACC
GCCAACTCTACCCAACTCGAACAGCTCAAAAACTGTTTCCCGCCTGTTTGGACGCAGAC
GGAAATTTCTTATCGACAGATTACAAGCCGAAATCGCGCCGACAGCCGACATCGGACGC
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15 ACAAACAGCGTGAAGATGATTACATCGACCCGCCCTAAAAACACCGGATCAGACGGCTTT
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TGGCTCACCTTTATGTATCCGCGCCTGTATGTCGCGCCGCAACTGTTAAAGGACGACGGT
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GTGTTTGGGGAAGGGAATTTTGTGCACAATTGCCTTGGCGAAAAAGAACAGCTAAATCA
20 GATGTGCCTTTTGGTATTTTCGAGGATTATGAATGGATATTTGTATTTCGCAAAATCTTGC
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25 CCTGATGATTATGATTTCTTAAATATCAGCAATCCAGTTATGCGTTACTTTAAAGATGAC
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30 AAGAGTAATGACCTAATCCTAGACTTCTTTCGACGACGCGGACAAACCGCCACGCCGTG
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35 GATTTTTCGCCCGAACACCGGATTTGCCGCTTAACGATGAATTAAGCGAAGAACAGCTG
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40 CTTGACCAGCGGTTTCGCGGTTATGCCAATAAAAAAGAGATTGAGTTGAATGTGGTTATC
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5 CAGACGTTCAAACCTGGCAAAGGCGAAGATTTGGCGCAAATCCATCCGGCTATTTCCGGAT
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GGATCAGAAAATAAGACACCCATTCCATCTCTTGAATATTAGTATATTCATGGGCTTCC
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40 CTTATGCCGTTCTTTCCCTGAAAGAGAGAATCCAAAAACCAAAGCCACAGGAATTTATC
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55 ACGAGTACGCCGCTTTTGGGCGCGAAGCGGAAAGATATGACCGGGTTGGACGATGTCT
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5 GCGCCGTTTTTTTGGGTCATCATCGGCAGCCCGAGTTTTTCGACCATTTGCGCGTCCATC
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15 GGTGGAATACGGCGACAAAAATGCCGGCAGGCAAATTTGAAGATCTGATTCCGGGCGAGTT
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20 GCTGAAGCTCGCCGATCCGCAAAACGCTCCCGCCTTGACGGCAACACTGATTCCGGAGGC
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35 TTCTGATCGGCAAAAAAGCCGTGAAGAGGCTGCGGAGGCGGCAATGGCGATGCTGGAAA
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55 AAAGCGGTCAAACCGGCGCGCGCTGATTCTGCTGGGGATGAAAACAGCTCCCGTCC
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5 GCGGGCATTTCCGATATCGTGGTTCTCCTCCTTGATCGGGATGCCGATTTACCGCGTT
CAACCCAAAGCGGAAAACACACCATCAGAAACGGGGCGCGATATTGACCACCACGCCGA
AGCTGGACGCTACCGGCACGACTTCCAAGACGCCCGCAGTCTGAATCACGGGCAATGTAA
AA

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 76>:

gnm_76

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15 CGTTATCGGTCTTGCACTAGTGACAACGGAGAAAACGCCATCAACCTGCTGGCATTCTT
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CGCCCTTGAAACGGCGCGGAAAAATGCGGCGGATTGGGCGCGCGGGTCGAATTTGCACA
CGGTTGTTGTTTCGACACCGATATGCCGTCTGAAGGAAATGGGACATCATCGTGTCCAA
CCC GCCCTATATCGAAAACGGCGATAAACATTTGTTGCAAGGCGATTGCGGTTTGAGCC
10 GCAAATCGCGCTGACCGACTTTTCAGACGGCCTAAGCTGCATCCGCACCTTGCGCGAAGG
CGCGCCCCACCGTTTGGCGGAAGGCGGTTTTTTATTGCTGGAACACGGTTTCGATCAGGG
CGCGGCGGTGCGCGGCGTGTGGCGGAGAATGGTTTTTCAGGAGTGGAACCCCTGCCGGA
TTTGGCGGTTTGGACAGGGTTACGCTGGGGAAGTATATGAAGCATTGAAATAATTGTT
TGCAAAATTGGCGG

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 77>:

gnm_77

GAATCAAAAATTAACCTGGGGAGCGGAAATGGTTCCGCGTCTTACCCGTTTTTAGGAGTT
CGTTAAGTGGCAAAGAAAATTATCGGCTATATTAACCTGCAAATTCCTGCAGGTAAAGCC
20 AATCCATCTCCTCCGTTGGTCTGCTTTGGGTGAGCGCGGTTGAATATTATGGAATTT
TGTAAGGCATTTAATGCTGCAACCAAGGTATGGAGCCTGGCTTACCGATTCCGGTTGTG
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25 GCTGCTGACTTGGATGCGGCTGTCCGTACTATAGCAGGTTCTGCTCGCTCAATGGGCTTG
GATGTGGAGGGTGTGTATAATGGCTAAAGTATCTAACGCTTGAAAGCTCTTCGCTCTT
CTGTGGAAGCCAATAAATTATATGCAATTGATGAAGCAATTGCTTTGGTAAAAAAGCAG
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30 GTGTGGCTGTATTTACTCAAGGTGCAATGCAGAAGCTGCTAAAGAAGCTGGTGCAGATA
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 CGCGGTACAGTATTGGCTAAACCGGGTACTATCACTCCTCACACCAAATTCAAAGCAGAA
 GTATACGTACTGAGCAAAGAAGAGGGTGGTCGTCACACTCCGTTCTTCGCCAACTACCGT
 5 CCGCAATTCTACTTCCGTACCACCGACGTAACCGCGCGGTTACTTTGGAAGAAGGTGTG
 GAAATGGTAATTGCCGGGTGAAAACGTAACCATACCGTAGAAGTATTGCGCCTATCGCT
 ATGGAAGAAGGCCTGCGCTTTGCGATTGCGGAAGGCGGCGTACCGTGGGTGCCGGCGTG
 GTTCTTCTGTTATCGCTTAATTGAAGGATATTGATAAATGGCAAACCAAAAAATCCGTA
 TCCGCCTGAAAGCTTATGATTACGCCCTGATTGACCGTTCTGCACAAGAAATCGTTGAAA
 10 CTGCAAACGTACCGGTGCAGTTGTAAAAGGCCCGATTCTTTGCCGACCAAAATCGAGC
 GTTTCACATTTTGCCTTCTCCGCACGTGAACAAAACCTCCCGTGAGCAATTGGAAATCC
 GCACCCACTTGCGCCTGATGGACATCGTGGATTGGACCGATAAACTACCGATGCGCTGA
 TGAAGCTGGATTGCGCGCGGTGTTGATGTAGAAATCAAAGTCCAATAATTCCGACTAT
 AAAAAATCCCCAAGCAATCAATGCTTGGGGATTTTTATGTTATGCCGAGACCTTTGCAA
 15 AATTCCCCAAAATCCCCTAAATCCCACCAAGACATTTAGGAGCACCTTCTTCCAGCAAA
 CCGCCCAAGCCATGATTGCCAAACACATCGACCGGTTCCCACTATTGAAGTTGGACCGGG
 TAATTGATTGGCAGCCGATCGAACAGTACCTGAATCGTCAAAGAACCCGTTACCTTAGAG
 ACCACCGCGGCGCTCCCGCCTATCCCCTGTTGTCATGTTCAAAGCCGTCCTGCTCGGAC
 AATGGCACAGCCTCTCCGATCCCGAACTCGAGCACAGCCTCATCACCCGCATCGATTTC
 20 ACCTGTTTGGCCGCTTTGACGAACTGAGCATCCCCGATTACAGTCATCAACCATATTCCG
 GTTGTGCGGAGAAAGATGCATACGCTGTGATGACCGGATACCGACCCGTTAAAAGAGTCC
 GACCCATGCGCTCTGAAATTCAAAACGCTTCAGACGGCATATTGAAGATATTTCTGAT
 ATTTCTGTGATATTTCTTTGACTTGTGATATAATGCCGAGCTGGTACATTTGTGCC
 AAGTTTAACTTTGTCTGAAAGACAGGCCAATCGTAGCCTGTCCCTTTACTTTAAAAGGAA
 25 AATAATCATGACTTTAGGTCTGGTTGGACGCAAAGTTGGTATGACCCGCGTGTTCGACGA
 ACAGGGTGTCTGTTCCGGTAACCGTTTTGGATATGTCTGCCAACCGCGTTACACAAGT
 AAAATCCAAAGATACTGACGGCTATACTGCCGTTCAAGTTACCTTTGGTCAGAAAAAGC
 CAATCGTGTCAACAAAGCCGAGCCGGGCACCTTGCAAAAGCAGGTGTTGAAGCCGGTGC
 CGGTTTGATTGAGTTTGCTTTGACTGAAGAAAACTGGCTGAATTGAAAGCTGGTGACGA
 30 AATCACCGTTCTATGTTTGAAGTCGGTCAACTGGTCGATGTAACCGGTACCTCTAAAGG
 TAAAGGTTTCTCCGGCACGATTAAACGTCATAACTTCGGTGCCCACTTATTCCGCTTGC
 AGCTTGCCGCTGAAGCGTACCAATACAGACTCGGGCATATCGAGCGGCATTACGCCCGTT
 GCGGCGGCAAAATGCAACGGGTA

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 78>:

gnm_78

TTTTCnTAGCAGGCATCAAACCTGCCCGGCAGCATCGTCGGCATGGGCGTGCTGTTTGGCG
 TTTTGCAGGCGGGTTGGGTCAAACGCTCTTGGCTGCAACAGCTTACCGACGCGCTGATGT
 CGAACCTGACGCTGTTCTCGTGCCGCCCTGCGTGGCGGTATCAGCTATTTGGATTTGA
 40 TTGCCGACGATTGGTTTTCGATACTGGTTTCCGCCTCCGCCAGCACTTTGTGCGTACTGC
 TGGTTACGGGCAAAGTCCACCGGTGGATACGGGGTATTATCCGATGAACGAAATCCTCAG
 GCAGCCAGCGTTCTGCTTTTCTCACGCTTGCCGTGTACGCGCTTGCGATTATCGTGCG
 CACGCGCACGGGCAATATCTTCTGCAACCCCGTACTCGTCAGCACTATCGTGCTGATTGC
 CTACCTGAAAATCCTCGGTATCGATTATGCGGTGTACCACAACGCCGCGCAATTCATTGA
 45 TTTTGGCTGAAACCGCCGTCGTCGTGCTTGCCGTGCCGCTCTACCAAACCGCCGTAA
 AATCTTCAACAGTGGCTGCCGTCATCGTTTACAGCTTGCGGGCAGCGTTACGGGCAT
 TGTTACAGGGATGTATTTGCCAAATGGCTGGGCGCGGAACGCGAAGTCGTCCTCTCGCT
 CGCGTCCAAATCTGTTACCAACCCCATCGCTATTGAAATCACCGCTCCATCGGCGGCAT
 TCCCGCATTTACCGCCGCAACCGTCATCTGCGGTCTGGTCGGACAGATTGCCGGTTA
 50 CAAAATGCTGAAGAACACGGTCGTCATGCCCTCGTCCGTGGGTATGTCGCTCGGCACGGC
 TTCGCACGCGATGGGGATTGCCGCTCGCTCGAACGCAGCCGCGTATGGCGGCATACGC
 GGGGCTGGGGCTGACGTTCAACGGCGTACTGACCGCGCTGATTGCGCCGCTGCTCATCCC
 CGTTTTGGGATTTGAACCGTTTACAGACGGCATTTACGCCATGCTGTCTGAACGCCGA

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CACACTCGCAAGGAGAACCGTTATGGCTGTCAACCTGACCGAAAAACCGCCGAACAACT
GCCCCACATCGACGGCATTGCCCTCTACACCGCCCAAGCAGGCGTGAAGAAGCCCGGGCA
TACCGACCTGACACTGATTGCCGTAGCCGCCGGCAGCACCGTCGGTGCACTTTCACGAC
CAACCGTTTCTGTGCCGCGCCCGTCCACATCGCCAAATCGCACCTTTTCGACGAAGACGG
5 CGTGCGCGCCCTCGTCATCAACACGGGCAACGCCAACGCGGGTACGGGCGCACAGGGCAG
AATCGATGCTTTTGGCAGTGTGTGCCGCGCCCGCCGGAATCGGCTGCAAAACCGAACCA
GGTGCTGCCCTTCTCCACCGGCGTGATTCTCGAACCGCTGCCCCGAGACAAAATCATCGC
CGCCCTGCCCAAAATGCAGCCTGCCTTCTGGAACGAAGCGGCACGCGCCATCATGACCAC
CGACACCGTGCCCAAAGCCGCTCGCGCGAAGGCAAGGTCGCGGACAAACACACCGTCCG
10 CGCCACGGGCATCGCCAAAGGCTCGGGCATGATTATCCCAATATGGCGACCATGCTCGG
TTTCATCGCCACCGATGCCAAAGTTTCCCAACCCGTCCTCCAATGATGACGCGAGGAAAT
CGCCGACGAAACCTTCAACACCATCACCGTTGACGGCGACACAGCACCACGACAGCTT
CGTCATCATCGCCACGGCAAAAACAGCCAAAGCGAAATCGACAACATCGCCGACCCGCG
TTACGCCCAACTCAAAGAATTGTTGTGACGCTCGCGCTCGAACTCGCCCAAGCCATCGT
15 CCGCGACGGCGAAGGTGCGACCAAGTTCATCACCGTCCGCGTCGAAAACGCCAAAACCCG
CGACGAAGCCCGCAAGCCGCTACGCCGTGGCACGTTCCGCGCTGGTCAAAACCGCCTT
TTTCGCTCCGACCCAACTCGGCAGGCTGCTCGCCGCCATCGGTTATGCCGCGGTTGC
CGACCTCGATACCGACCTCGTGGAAATGTATCTCGACGATATTTTGGTTGCCGAACACGG
CGGACGCGCCGAAGCTACACCGAAGCACAAGGGCAGGCGGTGATGTGCAAGGCCGAAAT
20 CACCGTCCGCATCAAGCTGCATCGCGGACAAGCCGCGCCACCGTCTATACCTGCGACCT
GTCGCACGGATACGTTTCCATCAACGCCGATTACCGTTCTGACCCGACACGGCTTCAGA
CGGCATACATAAAATGCCGTCTGAACCGCCGGAACATACCATGACCTCCACATTCCCC
CGCCGCTCGCCCGCAAAATCCGCCAAACCCGCGCCTGTGCGGCAAAAGCATCGCCTTT
CTGTTCTTTTGGCAGGTTCCGGCACTCGTCGCCCTGACCGCGCTGTTTTTGGCCATCTT
25 GCGGATTTTGGCGTGAAGTGAACGCCAACTGGTTCAACAATACCCGTGGTTCGCGTGG
GTCGCGCTTCTTTGGGTTTACCGCTTATTGCGTGGCTCACACGCAAATTCGCCCCCTTC
ACCGCCGGCAGCGGCATCCCGCAGGTCATCGCCTCACTGTGCTGCCCTACGGCGCACAG
AAAACCGGCTGATCCGCCCTCGGGCAGACGCTGCTGAAGATTCCGCTAACCTTTTGGGT
ATGCTGTTTCGGCGCTCCATCGGACGCGAAGGTCCGTCCGTGCAAGTTCGGCGCGCAGTG
30 ATGGGCGCGTGGGGCGCGTGGTGCAAGAAACACGGCTTGGCATTCAAAGGGATGCAGGAA
AACGATTTGATGGCGCGGGCGCGGGCGGGCGGTTTGGCAGCCGCTTCAACGCGCCGCTG
GCGGGCGTGATTTTCCGCATTGAGGAACTCGGGCGCGGCATCATGTTGCGCTGGGAGAGG
CAAATCTTTTGGGCGTGCTCGCCTCCGGTTTCATACAGGTCGCCATTACAGGCAACAAC
CCGATTTTTTCCGGCTTCAACGGCGCGGTATTGGAACATATCTTCTGTGGTTCGCACTG
35 TCCGCGCTGGTTTGGCGCGCGGGCGGGCGGCTGTTCCGACGTTTGCTCTATCGCGGTGCG
GCGGCGTTTGCACCGCGCAAGATACGCGGCTTCATCCGCAACCGTCCGCTGCTGCTGGCG
GCACTGATGGGGCTGCTGCTCGCCCTGCTCGGCACGTTCTACCAAGGCAAAACCTACGGC
ACCGGCTACCACGAAGCCGCCCCAAGCCCTGCACGGCATCTACGAAGCCCCCTTCGGACTC
GCCGCCGCCAAATGGCTCGCCACCGTATTAGCTATTGGGCAAGCGTTCCGGCGCGGCAAT
40 TTCACTCCCTCGCTGACCATAGGCGCGGTTTGGGCGAGCATATCGCCGCCATCGCCGAC
ATATCGCAGGGTGCAACATCATCGTCTCATCTGCATGGCGGCATTTCTGGCGGGCGCG
ACACAATCCCCGATTACTTCCGCCGTGCTGCTCATGGAATGACGGGCGGACAAAGCCTG
CTGTTTTGGATGCTAATTGCCTGCATTTTCGCCTCGCAGGTTTCGCGCCAGTTTTCGCG
CGTCCGTTCTACCACGCATCGGGAATGCGCTTCCGCCAGCGGTGCTTCAAGAAACCGCC
45 GCCCAAACCGGAATGCGCCCGCAAGACCGCAACAGCAAAACGCAAAACGGGAATGCCG
TCTGAAAATTAACCGCCCCGATCAAACGCCGCGCAGCCGCTTGATTGAAATACCGTTTC
CGCCGCGCTTGAATTTAGCAACAATGCCGTCTGAACGACAGAATGCGGTTTTTCAGAC
GGCATTTCCCCATCCCGATATTGCCTAAACAAAACCGAAGCGTTTGCTATAATTCTATTT
TTTACCGCATACGCAACCATCATGTTTCCCGATTCTCCCAAACCTCTCCAAAGACCGC
50 CACTTCTGCTTCCGCTTCAAAAATCCAAACAATAACGGCGGTTTGTCCAAAATCGAA
GAAAAATACGAAAATCGCACGAAATCTTTTGAAGCGTTTGGCAGCCTTGCCAAAACCC
GAATTCGACAACACCTGCCGTTACAGAGAAGCTCGAAGAAATCAAAAAGCCATTGCC
AAGAATCAGGTAACGATTATTTGCGGCGAAACCGGTTCCGGGCAAAACCACGAGTTGCC
AAGATTTGCTTGAAGTTCGGGCGTGGGGCGGCAGGATTGATCGGGCATACCCAGCCGCG
55 CGTTTGGCCGCGCGCTCCGTAGCAGAGCGGATTGCCGAAGAGCTGAAATCCGAAATCGGC
AGCGCGGTGCGCTATAAAGTACGCTTACCAGACACCTCGCGCGATGCCTGCGTCAAG
CTGATGACCGACGGCATCCTGCTGGCGGAAACGACAGACCGACCGTTATCTCGCCGCTAC

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GACACGATTATCATCGACGAAGCGCACGAGCGCAGCCTGAACATCGACTTCCTTTTGGGC
TATTTGAAACAACTCCTGCCGCGCCGCCCGATTGAAAGTCATCATCCTCGGCAACG
ATAGACGCAGAACGCTTCTCCCGACACTTCAACGGCGCGCCGTTTGTAGAAAGTGAGCGGA
CGGACGTATCCCGTCGAAATCCTCTACCGACCGCTGACCGGCAAAGACGAAGACGACGCA
5 GAAGTGGAGTTGACCGACGCGATTGTGATGCGGCGGACGAATTAGCGCGACACGGCGAA
GGCGATATTTTGGTATTCTGCGGGGCGAGCGGAAATCCGCGAAACTGCCGAAGCCCTG
CGCAAATCCACGTGCGCGCAACGACGAAATCCTGCCCTGTTCGCACGCGCTGTGCAC
GCCGAGCAGCACAAAATCTTCCACCCCTCAGGCGCGAAACGCCGCATCGTATTGGCAACC
AACGTCGCGGAAACCTCGCTTACCGTGCCGGGCATCAAATACGTCATCGACACCGGCCTC
10 GCGCGTGTTAAACGCTATTCCGCACGGGCGAAAGTGGAGCAGCTTCATATCGAAAAATC
TCCCAAGCCGCGCCCGCCAACGATCCGGCCGCTGCGGACGCGTCTCCGCAGGCGTGTGT
ATCCGATGTTTTTCAGAAGAAGATTTAACAGCCGCCCGAATTTACCGACCCCGAAATC
GTCCGCAGCAACCTGCGCGCGTCACTCTGCGCATGGCAGCATTGAAACTCGGCGATGTG
GCGGCATTCCCGTTTTTAGAAATGCCGATTACGGTATATCAATGACGGTTTTTCAGGTG
15 TTGTTGGAGTTGGGGGCGGTGGAGCCGCTGAAAACAGGCAGACATAAAAGAAAATCCG
CGTAGAGTGATGTAACCTTACCCTTGCTTTAATAAGTAGAAAATGGTGGGTTTACGTCCC
CCCCTGCGGCTACTAAAAAATATAAGAGTAAACAACCTTTTTGAAAGAAAAATGTATGG
ACGAAATTCAAATACCCAAAAAGTGAATTACAAACCAAACCTAGAAAATGAAAAGATTG
TTTTATCGAAAGGTTCTACCACGATTATTGTTGGTGCTAATGGCACAGGGAACAAGAT
20 TAGCTGTTTATATTGAAGAACAATTAAAGGAAAAAGCACACAGAATTTTCGCTCATAGAG
CATTAAAATTAAACCTAATGTCAATAAAATACCAGAAAAGAGTGCCAAAACATATCTAT
CTTATGGTCAGAACTGGGATGGAATCGATGTATCAAATAGAAAAAATTATAGATGGGATA
ATAACTCATATACTCATTTACTCAACGATTTTGATTGGTTATTACAATATTTATTCGCTC
AACAAAATAATATTGCGGTAGCAAATAATCAAAGCTCAACCGTAATGAAAAGTAACCG
25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 79>:

gnm_79

GCCCCTGGCTTCTTAAAGGTTGTCCGCCCAAATGCTCAATGACAAGGACTTGCCGTAA
GCGGTAAGAAAACGTGTACTATTTCATAGGAGAAACCTTATGTATTTGAAATCTATAAA
30 GACGCAAAAGGCGAATACCGTTGGCGTTTGAAAGCAGCCAACCATGAAATCATCGCTCAG
GGCGAAGGCTACACCAGCAAGCAAACTGTGAGCAGCAGTCGATTGTGCTGAAAAGCACT
ACCGCCGCTACCCCTGTAAAGAGGTATAAAATCCGCTTTCACCTCAGCCCGCGCCCTA
CGCGGGCTTTTTTGTGAGTTTCCGACTTTGCGGGAGTGATTGCCCGCCAGTCGCGCAA
GCCTGATTTTGATTTTCCAACCTCCGCCCATAGCCACCAAACCTCAGCGGCGTGTCCAAC
35 AGCGTGGCCGCTTGCCGTCTTTTCGCGGATTGCGGCGTACCGGCGCGACCATCAATGCA
GCAGGCGGGGTCGGCATGACTGCCTTTTCGACAACCTTAATTTCCGTAGCCGAGGGCGCG
GTTGTAGAGCTGCAGGCGGTGAGAGCCAAAGCCGTCAATGCAACCGCCGCTTGCATTTTT
ACGGTCTTGAGTAAGGACATTTTCGATTTCCTTTTTATTTCCGTTTTTCAGACGGCTGAC
TTCCGCGCTGTTTTTCGCCAAAGCCATGCCGACAGCGTGCGCCCTTGACTTCATATTTTT
40 AGCTTCCGCGCGTGCCAGTTCCAGTTCGCGCGCATAGTTTTGAGCCGACAACAGCAGGGC
TTGCGCCTTGTCGCGCTCCATCTTGTGATGACCGCTGCTGCTTCGCAAATGCCGACTT
GTAGCCTTGATGTTGCGACACAGCCAAGCCCGTGCCGACAAGCGCGATAATGGCAATCGG
TTGCCAGTTATTTCGCCAGCAGTTTACGAGATTCAATCTCGACCTCCTGACGCTTCACGC
TGACAAATGAACGCGCCACCGCATAGCCGCCGACAATGCCCAAATACCCGCCCAAATTT
45 CCGCCGACGGATCGGGCAACATCACAACTTAAACGTCCAGCCGCGCAGGCAACGTTTG
CCACAGTTTCGAGTGCGACACATTGCTGTGCGCGGGTTTTTAAAAATATCCAAAATAC
GCATTGCTATTCCACACTTTTGGTTTGAGGTGCCGTTTCAGCATTTCCCGATAATTGGC
CAGTTCGCCCTCCGCAAATTCAAACGCGACCAAGTCCGCTGTTGCTTGCTTCAGGCT
TTTGCCCGACCAAGCCCAATCATCTTTTCGTAAAACGCAACCTGTCCCATGATTAACGA
50 GATTCTTGCGTTTTCGCGCGCCGACGTTTAGCAGCGCCACGCCTGATTTACCCAAGCGC
AGGCTCGGATGTTGTTTCAAAGAGCCTACCCGAACAGGGCTTGGCGTGATTTGATTTCA
GGTAACGGTGGTACGCCAAAATCGTTTTTCAACTTTCACAATGGGCAACACATAAAGCA
ATCAAAGACTTTTTTCATACCTTCGCCGCTCCCAATTCATCGCAATCGCGTCCGCAATCG

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CGCGGCAGATGCCCCATTTGGTCGTCTTAAACAAGGCCAAATCAGTGTCTGCTGATGA
AAAAAGGCTCAAACACAATGCCGCCTGCCTGCGCATAAAGCCAGGCGCAATGTTGCCCTG
CGTTATCCGGCTTAAAGCCGTCTTCGCCGCGCAGTTTCCAGCCGGTTTTCTTGGAACGG
5 CTTTGCCAGCACCTGACACCAGCGTTATTTTTCGGCGTGGACAAGGCTTCGATGCCTG
TCGCCGTTTTGTTCCGCCGCGCATTGGTGTGGAACCTCAATCGCCACATCCGAGCCGCGAA
TCAGCTTGACCGCATCGCGCAGCGGCATATTGCCTTTGCCCGTGCCGTTCGGTTTAACGG
TCAGGCCGTAATCGTTACGCAGGATTGAAGCCACAATGTTGCGCATATCCTGCGCCAAGT
CCGCTCACGGTCGCTTCGTTGACCGCACCCGGGTGCGTGTGCTGTGTCCAGCGGTTA
10 AGGTTACGGTTTTGCCCATTCATCATCTCAAAAAATATTGATTGCATATAGTGGATTAA
CAAAAATCAGGACAAGCGCAGCAAGCCGAGACAGTACAGATAGTACGGAACCGATTAC
TTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTAC
TGGTTTTTGTAAATCCACTATAACATTTGAAAACCCATTAAACCGTCTTTAACCATCG
TCCCGAACGGTAGATTGTTTACCCCTGCAAAACCAAAAAAAGACCGTCTGAATACAGACG
GCCAAAGCCTGGTCAACATCACTGCCTAAAAATAAAGTCGCTGCTGTGCCGAGGTGCG
15 CTCATTTCAATTGATAATCGTATATCCCGTTTCGTGAAGAGATGCCGTATTTAGGGCATAGC
TTCGTATCGCCATAAGCCCGCTCTTCTTATCAATATCGCGCAATTTGACAACTCCTGA
TAAACCTATGGTTTTCAACTGTATTAAACGCTTGCCGACCCGTGGGACATACAATTCC
TCGCCACCATATACCTGCAACAGCTCATGTGTTTTCACTTCGCCGATGGCTTCGACCAAA
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20 GCCTTGACAGCTGTTCCGTGCTGCCAGTCCGATGACATCCACAATGTCCAACACGGTA
TCCGGCAATAAATGTTCAACTTTTTTCGAACCCCATCATCCCCACCCGCTTTTCCGTTTT
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GCCGCCGACGGTCAGCAGGGCTTCGACTTTGTCCAACATTGCCGCTGATGATGCCGACG
25 CAGATGCGGTTTTGCCGTGTTGGGTACCTTTTGCTTTAGGCTTAAATCCGTGCGACCGCAT
ATCAGCGACAACAGACTCAAGTTCGGAACATCCATATCCGCACACGACCGCTTGCCCGT
CACACGCTCCAACACCGCGCGATAGGTACCGTCATCCAAGCCAGCTCCTTTTGAGCAAT
CTTAATTTTCGCAATCAACGCCCGCGCATCTCAAACCCATAAAACACAATATATAGTAT
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30 TCGGGCAAAAATACCAAACTCAAATCAAGCCGTTTAGATACCGTTTTTCGGCGGTATCGT
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GACGTTTTTCTCGGCAGTCCGCATATCCACCAGTTGGTTGCGGCGGTTAACCAAGGCTT
40 CCAACACTTCTTCCACTTCGGTGGGCGGGTGGTAGGGCATGGTTTGCGAATCTTCTTTCT
GTGCCGTATCTGTGCGAAGAAGGCGGGCATTTTGGCATCTTTGGCGTCGGTTTTGGTCA
GCGGCTGCGATTGGGCAAACTGATGCGTCTGACGCGGGTTGGCGATAATCACGGCCCTGC
TCGGCGGATGGCTTTGGCGCGGGGATTTCGAGACCGCGGTACTTTCCGTACGACGAG
GGCGACCTTGTGTTTTTAAAGGTATTCGATAGTATGGGCGATACCTTTGGGGTTGTGGT
45 TTCGGTTTTGGTTTTAGACAAAGACGAAACGGCGATGACGAAGTTTCGTTTGGCGATGTC
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50 GGTGCGCTGCCGCTCCCTGAGCTACGCAACGGTTGTGTGCCTTGGGTGGGCGCGGGTGG
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55 GGAATACCCGAACCGTCATCCCTACCTTCGCAAAATAGCGCAAAATACCGTCTGAAAGCC
CTTCAGACGGCATTACCTTGTATTCTGTCATCAATGGCGGAAATGGCGGATGCCGGTTAC
GACCATGGCGATGCCGTGTTTCGTGCGGTGCGTCAAAACTTCTGATCGCGCATCGAGCC

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TGCCGGATGGATGATGGCTTTGATGCCCTGTTGCGCAATCACGTCCACGCCGTCGCGGAA
GGGGAAGAAGGCATCGGATGCGGCACACGCCGCTTGAGGTCGAGACCGGCATCTTGCGC
TTTGCGGGCGCGATGCGGGTGCTGTCCACGCGGCTCATTGGCCTGCGCCGATGCCGTA
5 GGTGTGACCGCCTTTGCCGAATACGATGGCGTTGGATTGACGTATTTGGCGACGTTCCA
GACGAACAGCAAAATCGTTCCATTCTGCTCGGTGCGTTGGCGTTTGGAGACGACTTTCAA
ATCGGCGCGGCTGATGCGGTGGATGTCGGGCGTTTGACCAACAGTCCGCCGCCGACGCG
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10 AAAGTGGTTGTCGGTAATTTGTTTGACGGTTGCGCCGTCAACTTCGCGGTTGAAAGCGAT
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15 GTAGAAGCGCGCGCGCTGATGCGGGTTTTGCGCGTAGCGCATGTCTTGCACTTTAATCCA
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20 CGTGCAGTTTGGTTTGGCGATGGTGGCAGCGAAGAGGTAGAGGTTGACGCACACGAGGTC
GATATTGCCGATGCCGTGTTCTTCATCTTGCGGACGTGTTGCTCCAAATCGCGACGACC
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25 TCGCCTGTCTTGTGCGATAGGCTGATCAGGGCGCGTTTGATGGAAGACATTTGGATTTT
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CCCATACTGCACCTGCCATGCCTGTACATAATGGCATGAGCAAGGCAACAGGGGCGTAGG
30 TGAGCTCCAAATAAAGGCTATGGCGGTGAGGGGCAATTTAAGGGAAACACCGAGGAAAA
CTGCGGCGCCGACAATGGCTGCGCTTTCAGAGGACATTTAGGAAAAACACTGTTCCACG
CGGTGGCAGCAGCAAGGCGATGGTACTGCCGAGCATCATGGACGGGGTAATCAGACCGC
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35 CGAAATTTTGGGAAACCAACGCGGAAATCACGCGGATGAGTGCAAAACATACAGACGGCCA
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TATTGACGGTAAGGTTGGCCGGATGATATTGCTGCACGTGCGCCAAGCCGATGCGCGCGA
CGGCGGTGGCGATGACTGAAGTTAACAATGCAGCGGCGACGGCTTGTGCGTCCACACGC
40 CCAGCATGGCTTCGAGAATGAAAGTGTGGAGGCGAGCGGCACGTTATACACGGCCGCCA
AACC CGCACCCGAAGCGCAAGCAATCAGTAGCCGCAATTCGCCTTCATCCAAACCCAAGC
GTTTGCCGCCGGCAAAAGCAACGCGGCGGTCAATTCGCGCGGGGCGACTTCGCGTCCGA
GCGGCGAACCGAGTCCGACCGTTATGATTGTCAGCAGAACATGGAAAACCGTCGTCAGAA
ACGGCAGCCCTGCAACGGCTGTTCAAGGCGGCTTTGATTTCGATTGCGGCTTGCCGA
45 AACGTTTCAGCAACCACCGCGCTGCCTGCGACCGCGCCGCACAGCGTCAGCACGGCAA
CGCGCCGCATACCGGAAGCCTGTGCCACGCCCTTCGCGGAACGAAGGTACACGCCGTCCG
CGCCATAACCGTATGCCGTATGCTGTATGAAGTGCATCAGTTCCGTCAGCACAATGCCGA
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TCGTTCTGCGGTTCAAAATGCGCTGTGAAAACCTTTGCGACGACATCCGTTTCTATCCG
50 CCTATCCGAACAGGCGCGGTACACGCTCCAAACCGCCGAAGTTGATACAGGCATCGGCGG
CGGCGCGCGCTTTGCGTTTGGCACGGTAAGCCACGCCTATGCCCGCTTCTTTGAGCATCG
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TGCGGTATTGCGGCAACAAATCTGCCTTTGCTGCGCGTCGATGATTCTGCCTTTAGAC
GGCCGGTCAGCCTGCCGTTTTCAATTTCCAAAACATTGGCGTGTGGTATTGGAAGCCGA
55 GGCGTTGTTGACGCTTTTCGTAACCAACGTAAGCCGCCGACACAGCAGGAATTTCA
CATCGTGCTTTTGCATTCTGCTCCAAACAAATTCGCAACCGGGCGAGAGCTTCAAAACGT
TTTCATAAACGTCCGCCAAACCCGTTGCTCCAATCCGCCAACAGCGCGACGCGGCTGC

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GTAAAGACTGTTTGAATCGAGTTCGCCGCGCATCGAACGCTCGGTAATTTCCGCTACTT
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35 GCGGTACCGATGAGGTTTTTATCGTTGTCCGGCAGAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 80>:

gum_80

CCAGGCTTGGGTCTGCACCATGTTGTTTTCTAAATATTGCTGCCTTTGAAAACTTTAA
40 AACCGCCATCGAAATCACCGCGCCGGAATCGACGAGGCAACGTCAGCCCGACTTTCAA
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ACCTTAAAAATCAATCAAAACAAATCGCGCAGCTTGTCTAAAAACGATTCTTTCGCGCGGTG
TTGGTTTTTCAAGCCGGTAGAAATCCGCTCAAATTTCTCCAAAAGCTCTTTTTGACGGTC
GGTCAAATTGACAGGCGTTTCGACAACAATATGGCAGTACAATCGCCGGTTCGCGCTGCT
50 GCGTAAAGATTTGACACCCTTACCCTTACGCGCATCCTCCTGCCGTTTGGGTTTCTTT
GGGACGGTGAGCTTGACCTTTCCGTCCAAGGTGCGCACTTCCAACCTCCCGCCCAAAGC
AGCCGTGGCAAACTGATCGGCAGTTCGCAATGCAAGTCCAGACCGTTCGCGTTGGAAAT
CTTATGCGCCCGAATGCGGACGGTTACATACAAGTCGCGGCGAGGCGACCGTGCATACC
CGGCGCGCTTCGCGGCTCAAACGGATACGCTGCCCGTCATCGATACCGGCGGGAATATT

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5 GACTTCCACCGTCTTGACCGCCTTATTCGCCCCGCGCCACGGCATTGACGCAAGGTTT
TTTAATGTGTTTGCCCGCACCGTGGCAGGTGCGACAAGTCTGCTGCATACGGAAAATCGC
CTGCTGGATGTGCACCGTACCCGAACCTTTGCAAGTCGGGCAGGTTTCCGGGGATGTCCC
CGGTTTCGCGCCACTGCCGTTACAGACATCACACGCTTCATAAGTCGGAATATTGATGCG
10 TTTCTTCACACCTTTTGCGGCTTCTTCAAGCGTGATTTCGATACCGACTTGAACGTCCTC
ACCTTGATAATCAGGCTGGGCGCGCCCCGAACCGCCTCCAAACATTTGGCTGAAAATATC
CCCAAAGTCAAACCCCTGCGCACCGCCAAATCCGCCAAACCCCTCCGAAGCCCCCTGTCC
GCCGCTTCAAACGCCGCATGACCATCTGGTCGTACATAGCGCGCTTTTCCTTGTCGGA
CAAAGTTTCATACCGCTTTTGTACTTCTTTAAACTTCTCTCCGCTCTTTATTGTCAGG
15 ATTGCGGTCGGGATGGTATTTTCATCGCCAATTTCCGGTAGGCTTTTTTAATCTCATCATC
GGTAGCTGTTCTTGCCACACCCAGCGTCGCATAAAAATCTTGATTACTCATTTTTTCATC
TAATTCAAAATAAAATCACGGCTCAAATAAGGGCAATTGCGCAAAACACAAGACAAACA
GACTGCCATAGCTTACAAACTGAAACGGAATACATTTTCAGACAGCATAAACCGATGCC
GTCTGAAATCTTCAGGTATGCACGACACAAAACTTAGATAGGCATAAAACCAACCGCCA
20 TGAAGTGTTTTGTATATAAAACGCCGCCGCAACGCATGTTTCAGACGGCATTTGATGCGG
TCAGACTTCCCCCTATTTTATTTTATTTTATCCGCGGCGCAGCACTGGTTTGGCTGGGCCTT
TTGGTGCGGGCGCGCCGACGGAAGCCTGATCCTTCAGCTTCGCCAGCACCGCAGGGCCTA
TGCCTGGCAGCGCTCCAACCTCTGCTGCGAAGCCGCATTGATGTTTACCGCCGCAAGGG
AGAAGGCGCAGGAGAACAGCATACAGAACAGCACGAACATTTTCTTCATGGTTTTTCCTT
25 TAAGGGTTGCAACAATAAACCGCATCTTGCGACGATAAAACGAGTCATTCTAAAATGAA
TATCCCAAAGTTTCAAGCCGTTCTCCGCAAACCCGACCGGACACCGTACGGATGCCGTC
CCGCCATCACCGACATTTTTTCCGGGCAAAGCAACATTTTTTCCGGGCAAAGCAAAAC
CCCCGAATAATCGGGGGTTTTCTGAATGGGTGTTTGGCAGTGACCTACTTTTCGCATGGAA
GAACCACACTATCATCGGCGCTGAGTCGTTTACGGTCCTGTTCCGGGATGGGAAGGCGTG
30 GGACCAACTCGCTATGGCCGCCAACTTAACTGTTACAAATCGGTAAAGCCTTAATCAA
TATATTCGGTAAATGACTGAATCAGTCAGTAAGCTTTATCTCTTGAAGTTCTTCAAATGA
TAGAGTCAAGCCTCACGAGCAATTAGTATGGGTAGCTTCACGCGTTACCGCGCTTCCAC
ACCCACCTATCAACGTCCTGGTCTCGAACGACTCTTTAGTGCGGTAAACCGCAAGGGA
AGTCTCATCTTCAGGCGAGTTTCGCGCTTAGATGCTTTCAGCGCTTATCTCTCCGAAT
35 TAGCTACCCGCTATGCAACTGGCGTTACAACCGGTACACCAGAGGTTTCGTCCACTCCGG
TCCTCTCGTACTAGGAGCAGCCCCGTCAAACTTCCAACGCCCCACTGCAGATAGGGACCA
AACTGTCTCACGACGTTTTTAAACCCAGCTCACGTACCACTTTAATGGCGAACAGCCATA
CCCTTGGGACCGACTACAGCCCCAGGATGTGATGAGCCGACATCGAGGTGCCAACTCCG
CCGTCGATATGAACTCTTGGGCGGAATCAGCCTGTTATCCCCGGAGTACCTTTTATCCGT
40 TGAGCGATGGCCCTTCCATACAGAACCACCGGATCACTATGTCCTGCTTTCGCACCTGCT
CGACTTGTGCTCTCGCAGTTAAGCTACCTTTTGCCATTGCACTATCAGTCCGATTTCCG
ACCGGACCTAGGTAACTTCAACTCTCCGTTACGCTTTGGGAGGAGACCGCCCCAGTC
AAACTGCCTACCATGCACGGTCCCCGACCCGGATGACGGGTCTGGGTAGAACCTCAAAG
ACACCAGGGTGGTATTTCAAGGACGGCTCCACAGAGACTGGCGTCTCTGCTTCTAAGCCT
45 CCCACCTATCCTACACAAGTGACTTCAAAGTCCAATGCAAAGCTACAGTAAAGGTTACG
GGGTCTTTCGCTTAGCAGCGGGTAGATTGCATCTTACAACCACTTCAACTTCGCTGAG
TCTCAGGAGGAGACAGTGTGGCCATCGTTACGCCATTCTGTGCGGGTCGGAACCTACCCGA
CAAGGAATTCGCTACCTTAGGACCGTTATAGTTACGGCCGCGTTTACTGGGGCTTCGA
TCCGATGCTCTCACATCTTCAATTAACCTTCCAGCACCGGGCAGGCGTCACACCTATAC
50 GTCCACTTTCGTGTTAGCAGAGTGCTGTGTTTTTAATAAACAGTCGCAGCCACCTATTCT
CTGCGACCCTCCGGGGCTTACGGAGCAAGTCCTTAACCTTAGAGGGCATACTTCTCCCG
AAGTTACGGTATCAATTTGCCGAGTTCTTCTCTGAGTTCTCTCAAGCGCCTTAGAATT
CTCATCTTCCCCACCTGTGTCGGTTTGGCGTACGGTTCGATTCAAACCTGAAGCTTAGTGG
CTTTTCTTGAAGCGTGGTATCGGTTGCTTCTGTGTCGTTAGACACTCGTCTGCTACTTCTC
55 GGTGTTAAGAAGACCGGATTTGCCTAAGTCTTCCACCTACCGGCTTAAACAAGCTATTTC
CAACAGCTTGCCAACCTTCTCCGTCCTCCGACATCGCATTTGAATCAAGTACAGGAA
TATTAACCTGTTTCCCATCGACTACGATTTCTGCCTCGCCTTAGGGGCCGACTCACCT
ACGCCGATGAACGTTGCGCAGGAAACCTTGGGCTTTCGGCGAGCGGGCTTTTACCCGCT
TTATCGCTACTCATGTCAACATTCGCATTTCTGATACCTCCAGCACACTTTACAATGCAC
CTTCATCAGCCTACAGAACGCTCCCCTACCATGCCGGTAAACCGGCATCCGCAGCTTCGG
TTATAGATTTGAGCCCCGTTACATCTTCCGCGCAGGACGACTCGACCAGTGAGCTATTAC
GCTTCTCTTAAATGATGGCTGCTTCTAAGCCAACATCTGGCTGTCTGGGCCTTCCCACT

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TCGTTTACCACTTAATCTATCATTGGGACCTTAGCTGGCGGTCTGGGTGTTTCCCTCT
TGACAACGGACGTTAGCACCCGCTGTCTGTCTCCGAGGAACCACTTGATGGTATTCTTA
GTTTGCCATGGGTTGGTAAGTTGCAATAACCCCTAGCCATAACAGTGCTTTACCCCAT
5 CAGTGTCTTGCTCGAGGCACTACCTAAATAGTTTTCGGGGAGAACAGCTATCTCCGAGT
TTGTTTAGCCTTTACCCCTATCCACAGCTCATCCCGCATTTTGCAACATGCGTGGGT
CGGTCTACACCCAGCAACTCATCGCCCTATTAAGACTCGGTTTCCCTACGCCTCCCTAT
GGGTCTACACCCAGCAACTCATCGCCCTATTAAGACTCGGTTTCCCTACGCCTCCCTAT
TCGGTTAAGCTCGCTACTGAATGTAAGTCGTTGACCCATTATACAAAAGGTACGCAGTCA
10 CACCACTAGGGCGCTCCCACTGTTTGTATGCATCAGGTTTCAGGTTCTGTTTCACTCCCC
TCCCGGGGTCTTTTTCGCCTTCCCTCACGGTACTGGTTCATATCGGTCGATGATGAGT
ATTTAGCCTTGAGGATGGTCCCCCATATTAGACAGGATTTACGTGCCCCGCCCTAC
TTTTCGTACGCTTAGTACCGCTGTTGAGATTTGAATACGGGACTGTCACCACTATGGT
CAAGCTTCCCAGCTTGTCTCTATCTCGACAGTTATTACGTACAGGCTCCTCCGCGTTC
GCTCGCCACTACTTGGGAATCTCGGTTGATTTCTTTTCCCGGTAAGTATGAGTGGTTC
15 AGTTCTCCGGGTTTCGCTTCTCTAAGTCTATGTATTCAACTTAGGATACTGCACAGAATGC
AGTGGGTTTCCCCATTCCGACATCGCGGGATCATTGCTTTATTGCCAGCTCCCCCGCGCT
TTTCGAGGCTTACACGTCCTTCGTCGCCTATCATCGCCAAGGCATCCACCTGATGCACT
TATTCACCTTGACTCTATCATTTCAAGAACTTCTTTGACTTGCCTAACATTCCGTTGACT
AGAACATCAGACTTGAATTTCTACTTTGATAAAGCTTACTGCTTTGTTGTGCTTAAATC
20 CTGCTTTTGTGTTTCAGGATTAAGTCGATACAATCATCACCCAAATACTGTGTTGTTT
TCTTTCTCTTGCAGAGATTTTATCCTTTGCAAGAATAAAAAATCAAAACAAACGCT
TTGTCTTTGTTTGTGTTGATTTTCGGCTTTCCAATTTGTTAAAGATCGATGCGTTCGATATTG
CTATCTACTGTGCAAATCAAATCGAGCTG

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 81>:

gnm_81

CATGCTGAACGTTTGGCTGACATAAAGTTAAATGAGTCAGTCCGCTATAATTGATGAAAC
GGGTAAAAAAGTGTGCCATCGCCTGTTCTTCTGTGCGATACGCTTAAATAAGACCAG
30 CAAATAAATGGGCAGGCAATCAATAAAACATACCACGCTTGACATAATAAGCGATGCC
AATCAGTTCGGGTATGATGTTTAAAAAATAATTGGGGTGGCGGAATGTTTAAACAACCA
CGAACGATTAATTTGATGATTTGGTAAATATAGATTTTAACCGTCCAAATCTCCCCAA
CTGCTTAATAATCAATGACAATATCACAACGAAGCCATCACCGTCAGCGTACCAATCAA
GGATATGCCATTAAAGCAGTGTGAGAAAGCCATACCCAAACAAAACACGCCAAATAATA
AAGCGTATGAATGCCGCAAGCAGCGTGAATGGTTTTCCGTATTGTTTCGCCCTTTT
35 GGCAATCAAGGCTTTTTCATGTTTAAATAGAGACGGCTAAAAATAACAGTCTGATGATAA
AAACAGGCTTAAATGCTTAAATCATTGTCTGATGTTTTCATTGAAATTGAAATA
AATATAAATCGGATTAATGGTATTTTAAATTAATGATGTTTCAGACCATCATGCTCTATA
AACAATTTCCATTAAAGTCCGCGCCGCAACCTGCTATAATAAGTCTGCAATCGGCGCAAT
CAATGCTTTGCGTTTATTGCCATCCAAAATAATTGATGCTGCCTTAATTATAATACCAA
40 GATAAGTTTTTTTATTCAATAAAATACAAAGGAAGCGTTCAGCCCATTCGAAACAGATG
CAATCCACCGATTATTTAAAAACGGCAAAGCCTTGCCCCCTTGCGGCAAGCCTGCAAT
GCCTTTAATGTCCGCAAGCGCAAGCGTCGCCGTGGTGCCGCAACCTGTGCCGTTTCGA
GCCATTTCGTCGTCATCGCCGTCAAACCTCTCCACTTCGTCAAACCTCGCCGCGTTCCACCA
TGACGCACAACCTCTCAAGGCTTTCCGCGCCTTCCACCCAAAACAGGGAATGCCGCGCG
45 GCATATCGGGCGCAAGCAGTGCCTTACGCTTTCATGCCACGCAATCCAATAGCCGTTGT
CCGTACGGACGAATTGTGCGTTTTCGTTGACCGACTCGCCTTCCGTACCTTCCAGCATAC
GTTCCGCAATGTCCGGTTGAAAAGATAAAATCTGCATAAGTGTTCTTTATATGATGGTT
TTCCGTCAAACAAGGTGTTATAGTGGATTAAATTTAAACCAGTACGGCGTTGCCTCGCC
TTGCCGTAATAATTTGTACTGTCTGCGGCTTCGTGCGCTTGTCTGATTAAAGTTAATCC
50 ACTATAATTTAAAAATCGCGCCGCTTGAGAAACTGCCAACCCTTTATAACAAATTCG
TCTTTGCACCAAACTTTCCATTCTTTCCGTTTTTCGGACGGCATCGTTAAAGTAGTCCTT
CCTTTTCTTTATTTTTCAGCATTTGTTTATGTTAGCGCTCAAACGCCCGGCGTACTGCC
GGCTTCAAACCTAGCCTTGGTCTGACCGTATTGTGCTGCTGCTGTGTTGTTGCTTGGCG

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TTTGCGATGATGGCGGCGAAGGCGGCGGAAATCGGCTGGGGCGGCTTTTGGAACACGATT
GCCGAGCCGAACGTGTTGGCGGCGGTATGGCTGAGCTTGGGATGTCGTTTTATGCGATG
CTGACCAATGTCGTGTTGGGCACGCTGGTGGCGTGGGTATTGGTGCCTTATGAATCCCG
5 GGCAAGGGTCTGGCGAACGCGCTGGTGCATTTGCCGTTTGGCTGCCGACGGCGGTTACG
GGTATCGCGTTGGCAACCCTGTATGCGCCCAACGGTTGGATAGGCCSTTTTTTCGAGCCT
TTGGGCATCAAAATCGCGTTTACACCCGTCGGCATTGGATTGCGCTGGTGCCTCGTCAGC
CTGCCCTTTATCGTCCGCGCCGTGCAGCCGGTATTGGAAGAATTGTCGGGCGAATATGAG
GAAGCGGCGGCAACTTTGGGCGCAAGCCGTTGGACTACGTTTCGCCGTGTCCTCTTGCCCT
GAAATCACACCGGCACTCTTGACCGGCGCGGGAATGATGTTTGGCGGGCAACGGGGGAA
10 TACGGTTCGGTGATTTTTATCGCGGGCAACATTCCGATGGTTTCTGAAATCCTGCCGCTG
ATTATTACGGGCAAGCTGGAACAGTTCGACGTGCAGGGCGCGTCGGCGGTGGCGTTGTTT
ATGCTGCTGGTTTCGTTTGTGATTCTGTTTGGCTGAACGTGATGCACTGGGCGTTGGGC
AGGCGTTCGGGCGCGAAGGGTTGAGGTGCTCTGAAATACCTGTTACCGTCATTCCCGCGC
AGGCGGGAATCCATTGGTGAATTTGGCTGCCCTATTTATTTCTGTTTCTGTTTGGCC
15 TGCGGTGGATTCCCGCTGCGCGGAATGACGGTAGCTAGACGTTTTATTCCCTTAATC
AATAAAAGGTTGTCTGAAAACGAATCCGCCCCACAAAAACGGTTTTTCAGACGGCATCC
AAACATTTTAAAACCAACCAGAGAACCACCGCCATGAAACCTATTCCGCCAATCCCA
ACCTGACCGAACC GCGCGCGCTGCGCGTGTGCTGATTGCCGCGCGCTGGGCTTTCTGC
TGCTGATGCTGGTGCCTGCCGCTCGTCGCCGTGTTTACGAAGCCTTAAAAGGCGGTTGGG
20 ATTTGTACCTGAAATCCTTAAACGATCCCGAAGCGTGGTCTGCCATCAAATTGACGCTGA
TTACCGCGCTGATTGTCGTTCCCGTCAATGCCGATTGGGTGTGGCGATGGCGTGGCTGC
TGACCCGTTTTGATTTTCGCGGCAAGCAGTTGCTGACCACCTGCTCGATTGGCCGTTTT
CCGTATCGCCCTGTCGGTGGCCGTTTGATGTTGCTCTTATTGTTTCGGCGCGCATACGGCAT
TGGGTGGCTGGCTCGAAGCGCAAGGCATACAGATTATCTTCGCCATCCCCGGTATTGTTT
25 TGGCGACGCTGTTTCGTTACCTTCCCCTTTGTGCGACGCGAAATCATCCCGCTGATGCAGG
CACAGGGCGACAGCGAAGAACAGCGGCATTGATACTCGGCGCAAGCGGCTGGCAGATGT
TTTGGCGCGTTACCCTGCCCAACATCAAATGGGCGTTACTCTACGGCATCATCCTCACCA
ACGCCCCGCGGATGGGCGAGTTCGGCGCGGTGACGCTGGTATCGGGACACATACGCGGCG
AAACCAACACCGTCCCGCTTTTGGTCGAAATCTTCTACAACGAATACAACCTCACCGGCG
30 CATTCGCCCTCTCCGGCGTATTGGCATTGTTGGCACTGGCGACGCTGGCGGTGCAGAACA
TCATTACCAAAATTACAAGACAAAAACTCGCCGCGCGGAAAGGAATGCAATATGAGTAT
CACCATCCAAACTTAAACAAACACTTCGGCAATTTTACGCGCTGAAAAACATCAACCT
CAACGTCCCCACCGGCAAACTCGTTTCCCTGCTCGGCCGCTCCGCTGCGGCAAAACAC
ACTTTTACGCATTATCGCCGACTGGAAAACGCCGACGGCGGCAATATCCTGTTTGACGG
35 GCAAGACGTAACCGCAAAACATGTGCGCGAGCGCAAAGTCGGCTTCGTGTTCCAACATA
CGCCCTTTCCGCCATATGAACGTGTTTGACAACGTCGCTTTCCGTTTGACCGTATTGCC
CAAGTCGGAACGCCCGTCCAAAGGACAAATCCGCGCAAAGTCGAAGAATTACTCAAGCT
CGTGCAGCTCTCTATTGGAATAATCCTATCCGCACCAACTCTCCGGCGGGCAACGCCA
GCGCATCGCCCTCGCCCGCGCGCTTGGGTGGAACCAAACTCTGCTTTTGGACGAACC
40 CTTCGGCGCGTTGGATGCCAAAGTACGCAAGAATTACGCACCTGGCTGCGCGACATCCA
TCACAACCTGGGTGTAACAGCATTCTGGTTACGCACGACCAAGAAGAAGCCCTCGAAGT
TTCCGACGAAATCGTCGTGATGAACCACGGCAAAATCGAACAAACCGGACGCGCGAAGC
TATTTACCGCAAAACCGGAAATGCCTTCGTTACCGAGTTCTCGCGAAACCGACGCTTT
TGAAGGACGCATCGAAAAAGGCTTCTGGCATTACAACGGCTTCGCGTGGAATTGGACGC
45 GCAATACAAATGGCAGGAACAAACCGCCACCGCTATATCCGCCCGCACGAATGGCAGAT
CGCCGCCGAACACGAACACCGATGATTTGTGCCGAAATCGAAAAATCCACGCCGTCGG
CGCATTGACGCATATTCTGGTAAAACACGACAAACAGGACGTACATATCACGCTGGCAGG
CAGCGATGCCGCGCGTTACCCAATCGCCGAAGGCAAGAATTGAAGCTGATTCCGAAACA
GGTTTATGTCTTCTCTCAAACGAACGATTGAATATTCGATTTAACCATGAAAGCGCAA
50 TGCCGTCTGAAAGGCTTTCAGACGGCATTTGCTTTCAAGCGTCAGGCAAGAAACAGCTT
GTACGCGGCGATTTTGCCTTCTCGGTATGCTGATCCAGACTTTCCAAGAAACCGTC
AAATGCGGCGGCATCGTGGCGGCGCACATCGATACCGACCAAAATCCGCCGTAATCCGC
ACCGTGGTTGCGGTAATGAAAAGCGTAATATTCCACCCTCCCTGCATATGGTTCAAAAA
GCGTGCCAATGCCCCGACGCTCCGGAAACTCAAACCTGACCAACGCTCGTTTTCTAC
55 TTTGTCCGTCCGCCCTCCGACCATATAGCGGATATGGATTTTGGCAATCTCATTGTTGGT
CAAAATCGACATTGGGCAATCCCGCTCATCAACCGGCTGCCGATAACCGCCAAATCCTG
CGGCGCTGCCGCTTGAAGTCCGACAAAGATATGCGCTTTTTCATCGTCTCCGTAGCGGTA

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5 GTTGAACTCGGTAATATTCCTATTTCCCAATATATTGACAACTTAAGGAAGCTGCCGCG
TTCTTCAGGGATGGTAACGGCAAAAATACCTTCGTTGCCCTCGCCCAATTTCGCTCCGTTTC
CGAAACGTGGCGCAAAACGGTGAAAATTCATATTCGCACCGCTGGTAACGGCAATCAGGGT
10 TTGGTTTTCCGCGCCTTCTCGGGCGATATAGGCTTTCAGACCCGCCAACGCCAACGCGCC
CGCCGGCTCGGTAATGCTGCGCGTGTTCATCGAAAATATCCTTGACCGCGCCGCAAAACCGC
ATCGGTATCGACTGTAATGATTTTCATCCAAAAGTTCTTTGCAGAGGCGGAAGGTTTCGTT
TCCGACGACTTTGACCGCAGTGCCGTCTGAAAACAGCCCGACATCTTTCAAATGGACGAT
TTCACCCGCTTCGACCGACTGCTTCATACAGCAGGAATCGTTGGTCTGAACGCCGATAAC
15 TTTGATTTCCGGACGGACCTGCTTGATAAATGCCGCCACGCCCGCCGCAAAACCGCCACC
GCCTATCGGTACGAATACGGCGCGGATTGGATCGGGATGCTGGCTGACAATTTCCATCCC
CACCGTCCCCTGTCCCGCAATCACATCAGGATCATCAAACGGCGCGATATAGGTTAACCC
TTCTTTTCCGCCAACTCCATCGCATAATCGTAGGCATCGTTGTATGAAACGCCCCGCAA
AACCACCTCGCCGCGATGGCTTTTAACCGCATCCACTTTGATTTTCGGCGTAGTCTCCGG
CATAACGATAAACGGCACGGCAGCCAAACGCTGTGCGGACAATGCCACGCCCTTGACGATG
20 ATTGCCCGCGCTTGCCGCAATCACGCCGCAAGCGAGCGCATCTTTCGGCAACTTGGACAT
TTTGTGTACGCGCCGCTATTTTGAACGAAAAACCGGCTGCAATCTTCGCGTTTCAA
AAGGATGTTGTTTTTCAAACGTACAGAAAAGGCTGCGTGCCGGTTCCAAAGGCGTTTCGAC
CGCCACATCATAGACAGATGCCGTGAGGATGCGGATGAGGTAATCGGAATAAGGAAGGGG
CGTGTTTATAATTCATATGGGATAATCGGTTTATTAAATCGCAAAACCCAAACCATA
25 CGCCCAAGACGGCGGAAATCAAGAAAAATCCGCCCGATCAGACACCTAAGCGTATAAT
CGGCAGACTGAACACGCGACACAAATTAGAATATTTTCATGACAGCACATAAAAATCCTGCC
GTCTGCTTTTCATCATCTTAGGCGTTTCTCACGCAACGGCTGCATCGCCCGCGCCCAAC
AGACCGACGGTACAGCGCGCCCCACGTTCCAAACACCCGAAACCTCACAGCGGCACAC
ATCGTTATCGACCTTCAAAGCAAACAGATTTTATCCGCCAAAACATCAATACCCCTGTT
30 GAACCGGCGGCACTAACCCAACTGATGACCGCATATCTGGTTTTCAAACATGAAATCG
GGCAATATCCAATCTGAAGAAAATTAATAATACCCGAATCCGCATGGGCTTCAGAAGGA
AGCAGAATGTTGTAGCTCCCGCGATACGGTCAGCACCAGCAAACTCTTAAAGGCGATG
ATTGCAGCTATCCGCAACAGATGCCGCCCTAACCTTTCGCCGCGGCTGGGCAACGGCTCG
ATTGAAAATTTTGTGCAACAAATGAACAAAGAAGCCCGACGCTTGGGCATGAAGAACACT
35 GTATTCAAACCCGACAGGCTTGAGTAGAGAAGGACAGGTTTCCACCGCCAAAGACCTC
GCCCTGCTGTCTGAAGCATTGATGCGCGACTTTCCGGAATATTACCCGCTGTTTTCCATC
AAATCTTTCAAATTCAAAAATATAGAACAAAACAACCGCAATATCCTTTTATATAGGGAC
AACAATGTAAACGGTCTGAAAGCCGGACACACAGAAAGCGGCGGCTACAACCTTGCCGTG
TCATACTCCGGCAACGGCAGGCACATCCTTGTATCACATTGGGTTTCGGAATCGGCGGAA
40 ACACGCGCATCAGCAACAGCAAGCTGCTGAAGTGGGCATTGCAGGCCTTCGATACGCC
AAAAATATATCCGAAAGGCAAAACCGTTGCCCAATCCAAATTTCCGGAGGCAGCAAAAAA
ACCGTCCGCGCAGGCTTCTCAAAGAAGCCTACATCACTCTGCCACATAAGGAAGCGAAA
ATGGCAGAACAAATCTAGAAACCATACAGCCGATTTCCCGCCCCAGTAAAAAAGGGCAA
ATTTTAGGAAAAATCAAATCAGACAAAACGGATACACCATTGCCGAAAAAGAAATCGTC
45 GCACTGGAATGTAAAAAAGAACCGGTGGCAAAGGCTTTGGGCGTGTCTGACAGGG
CAGTAATCTGCCGTTTCAAATATCCCGTTTTTCCAACAAATAAAGAAATGCCGTCTGAAA
CACGGTTCAGACGGCATAAAACAACAGGGCGGTACGTATTGCATACGCGCGCCCTGCTG
CTGAAATCAATTAGCGTTTCTTACCGGTAACGGTAGCAACAGCCAGATTTTCGTTACGTT
TCAGGGAAACGCTTCTACACCTCAGGCAGTTTGATGTCTGACAAGTGCAGAATGTCGC
50 CGGCAACCACTTCAGCACAAATCCAATCCAAGAAAGCAGGGATGTTGGCAGGCAAAGCAA
CTACTTCAACAGAAGTGTTTAACAGAGATACGCGGCCGCTTGACGTTTGACCGCTTGGG
AATTTTCAGCGTTAACGATGTGCAGGGGAACACGGATGCGTACAAGTTGATCGGCTTTCA
CAGCTTGGAAGTCGATGTGTGAACTTCGCGGCGGAACGGGTGCATTTGGAAATCACGGA
CGATAACGCTTTTGGTTTACCGTTTCAGAGACAATTAATCAACGCAGTATGGAAAGATT
55 CTTTTTCCAATGCGTAGAATACGGTTTTGTGATCCACAGCGATTGCAACAGGCTCTTGAC
CTTACCGTACAGAATGCCGGGGATTGCGCTTCGCGACGCGAGGCGGCGCTCGCACCAG
TGCCTTGTGCTTCACGAACAGAGCTTGAATTCATAAGTCATGTTAAATACTCCAAGTT
AGGTAAAATCGCCGTATCGGCCGCGACAGCTTAAGACGGCTTCGGGCTTATGGCAGCA
ACATGCTGCTGTATCACTTCTTCATTGAAAAGATATGAGACGGATTCTTCATTGCTAA
TGCGGCGGACGGTTTTCGGCCAACAGACGGCAATCGTTACCTGACGGATACGGTCGCAGT
TTTTAGCCGCTTCAGACAAAGGAATGGTATCGGTTACGACCACCTGGTCGATTTCCGGATG
AGGCGATACGGCTGACCGCTCTCCGGAGAATACGGCGTGGCTGGCATAGGCTAGAACAC

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5 GTTCAGCCCCCGCTCTTTCAGGGCGACGGCGGCTTTGCACAGCGTATTTGCAGTGTCAA
TCATATCGTCCACAATCAGACAGGTTCTACCTTGAATATCGCCGATGATGTTTCATGACTT
CCGCCACATTGGCTTTCGGGCGGCGTTTGTGATGATTGCCAAGTCGGCATTTCAGGGATT
TTGCCACGGCGCGGGCGCGGACGACACCGCCGATGTCCGGGCTGACGACGGTCAGATTTT
10 CAATCCGCTGTTGTTTGTATGTCGTTCAACAGAATCGGGGTGGCATAAATATTGTCCACCG
GAATATCGAAGAAACCTTGAATCTGGTCGGCATGCAATCGACAGTCAAAACACGGTCGA
TCCCTGCCGAATACAGCATATTTGCCACCAAGTTTGGCAGAAATCGGAACGCGGACGGAAC
GCGGACGGCGGTCTTGGCGCGCATAGCCGAAATACGGAATGGCTGTGGTAATACGACCTG
CCGAAGCAGCTTCAGTGCATCCGCCATCGTCAGGATTTCCATCAGGTTGTCATTGGTCG
15 GCGCACAGGTCGGCTGAAGGATGAAAACATCGCGCCCGGTACGTTTCCAACAGTTCGA
CGGCAACTTCGCGCTCTGAAAACCTTGGATACGGAAGCATTGCCCAAAGAAATGTCCAAAT
GCCTGACAACACGTTGTGCCAATTCGGGATTGGCATTGCCTGTAAATACCATCAAACGT
CGTACGCAGCCATATTCTCACCTGATTTTATGTTTAACTTCCGCTCAGAAAACACAATGC
TTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 82>:

GNMCB20F gnm_82

20 GCAGGTCGACTCTAGAGGATCCCCAGCAAATGGGGCAAGGTTCAAATAGGAACACCATCT
GCAGATTTTGGCATTATCACTTTAGATAGTGGCGATGGATATGCCGTTTCATGCCATCAT
CCCGAAATTTTACGCTAATCCTAAAAGAAGAAGGATTGGATGAAGATTTCAAATCGGT
ATCGAAGGGCGCTCTCATCGCGATTGTGATGCTGAAGAACCAGTTATCCATATCGAA
GATAAACGCACCATTTGAAACCCCATGAAAACCTGCTGCCGTTTAAATCATCTACTGATGAT
TACTTAGGCAAATGTGCCCGTCCCTCCCTTTTCAGACGACCTTTCATTGCGGAAACCGCC
25 GCAAAGGTTGTCTGAAAACCGTTTCCATCCCGTTTTACAAACAACCGAAAGCCCCAC
ATGATCTCTTTGAAAACGACACTTTCCTCCGCGCCCTGCTCAAACAACCTGTGGAATAC
ACGCCGATTTGGATGATGCCCGAGGCGGGCGTTATCTGCCCGAATACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 83>:

gnm_83

30 CGGCGAAGCGCGCCGCGAAATCGCCGACTTTTAAATTGATGCCGCGCCTTCAGGCGAAA
AATGGGTCTTGAACGGAAGCCGGTAATGTGTCTATCCGAAATGTTCCAATTTTGAGC
AGATCAAACAGGGTTCTTATGTGCGTTTCGACGGTTTTAATTCTGTTTCGTAGTCATTTACG
GCTTCAGGCTTTTGATTAATTTTTTAAAGACATGGGCAAGGTTGGGATTGATTGATGGT
TATTGATTTTTGGTTTTCTCTCGTTTTCTTGGCTTTGTCTGTCGCTTTGATATTTAA
35 ATGACGTGTTTTAAATCAGGCTTTCAAACAACCTTTGAAAGGCAGAACAATGAACAAA
CCGTTTATCACGCAGGCGAGTTGGCAGTTTATAAATATCAGCCGTCAAGCAAGTATTAT
GGTAAACAATGGCATATACTTTCGCTAGTGAGCTTTTGGATTATTCAAAGTTAATAAA
TTTATAATTCATGAAGAAATCCAATGTTTTTAAATAGAAGGATTCTAATAATATTTGG
40 AAAATTTATTTTTCTGATGAGTCTGTTCGTATATAAAAATTTTAGAATTACAGGATGAT
TATAGTCGTGGAATTGAAATTAACCGTTTGATTTTAAATCCTAATGTTGGGGATGTTTTT
GGTTAATTCCTATGCTGAACGTTTTAAGTATCCTATTGGAAATTCAGATGTTAGATTGGA
TATTGATCATATAAAAATCTGTAGTTACCGATTTTCGTGTTGATGGTCAGCGTTTTTCAGG
TCGAATTATCGAACCTTCAATAATAGAACACGTGCCAACAGGTGCACGCTCTCTTGAAAA
AGTCCCGTTAAATTTACCGCATCAGTTTCCCGCGCCCGCTTGTTCAGGAGTCGGCAA
45 ACTTGCCCGCTTAGGCGCGAAATTAAGCACAAGGGCAGTTCCTTATGTGCGAACAGCCCT
TTTAGCCCATGACGTATACGAACTTTCAAAGAAGACATACAGGCACAAGGCTACCAATA
CGACCCCGAAACCGACAAATTTGTAAAAGGCTACGAATATAGTAATTGCCTTTGGTACGA
AGACAAAAGACGTATTAATAGAACCTATGGCTGCTACGGCGTTGACAGTTCGATTATGCG
CCTTATGTCGATGACAGCAGATTTCCCGAAGTCAAAGAATTGATGGAAAAGCCAAATGTA
50 TAGGCTGGCACGTCCGTTTTTGAATTGGCATAAAGAAGAACTGAATAAATTAAGTCTTT

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GGATTGGAATAATTTTGTTTTAAATCGTTGCACATTTAATTGGAATGGCGGAGATTGTTT
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5 CGCACCCCGGAACAAAAGTGAATATGGGTCCCGTCACGGACAGGAACGGGAATCCCGTTCA
GGTTGTCGCAACATTCGGCAGGGATTTCGAAGGCAACACCACGGTGGATGTTCAAGTAAT
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10 CCCCATCCCGAACCCGACCCCGATTGAATCCCGATGCAAAATCCCGATACGGACGGACA
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AGACGGAAAGGACGGCAAGATGGCGGCCCTTTTGTGCAAAATCTTCCCCGACATTTCTCGC
TTGCGACAGGCTGCCCGAGTCCAATCCGGCAGAAGATTTAAATCTGCCGTCTGAAACCGT
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15 ATGTACCATAGCCGAACGGCTAAGGTACATGCTTCTCGCCCTTGCTTGGGCGGTTGCCGC
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AAGGGCAGGTGGTAAGGCGCGCGCCTTTTGCGCCGTCCCCATGCCCGCGCGGCTCGCAA
20 GTGAGACTAGGGGGTGTGGGGGACTAGTCCCCCGCAAGCGTTTTCAGCTTCGGAACCTTG
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25 CGTATATTGACTGCATTAGGCTTGATGGCGGTAACCTATTCAGGGGTGGATAGATTGGTA
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CTTTTTTATATAAGCGGCGGTGGAACCGTTCTTAATATCCTGTTTGGCGCGATCGCCTTT
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30 ATGATGGCGAATGATGAAATGTTTAAAGCCTGATGAAAACGGCATAACGCCGTAAAGTATTT
ACGAACATAAAAGGCTTGAAAATACCGCACACCTACATAGAAACGGACGCAAAAAGCTG
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35 GATATATTTGTTTGACTCAAGTCTTAAGCTTCTAGATCAAAATCTTAGAACGCTTGTA
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45 GAGTTGATGTGCAAGGACTATGTAAAAACGGCTTGCCGTTTAAACCATACAAAGAAGAA
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CCGTTTGAAGGAATCGGCGGGGGCGTGGTTCGGATCGGCAAACTGAAGAAAACGGCAAGAG
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50 AGCAAGGGCTAAGGCAGTCAGGCAGCAAAATCCCGCAATGTATTAACAGACGCGTAGAA
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CGCAACATTCATATAAACAAACGGAAGTATCCATTACATTAAATTTAAGAATAATGATGA
TGGATTAAACAGTTTAGATTGTGGATAAAGGGAAACAGAATCAGAAAAGTCTATATCGG
55 CATGGAGGCAACAGGCATCTATTACGAAAAGGCAGCAGATATGCTTTCTTCTACTATAC
TGTTTACGTTATTAAATCCCTTAAAAATCAAGGACTACGGAAAAAGCAGGTTTAAACCGTAC
CAAAACCGACAAAGCAGATTCAAACCTGATAGCAGACTACATAAAAAGGCATCAAGATAC

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ATTGATACCGTATCAGATACCCAAAAACAAAGCACTGCAAAAACTGATTAACCTTAAAAA
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CATAAGGAACATACATCAAGACTTGATAGATACCATACAGGACAAGATGGAACAGGTAAA
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5 AACCATCCCAGCATAGGCAAGACACCGCATCAGTTCTTTATGCGCAACTGACAGAAAA
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ATCAGGGACAAGCGTAAGAGGTCCGGGCGAGATTGAGCCGATACGGAACAGACGATTAAA
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10 CTGGGCAAGCTCGCTATTACATTGTTAAAACCGGCCAGCCTTACGATGCGGAAAGACA
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15 CGAAAAGTGGTGGGAATGACGTTTTCAGTTGCTGCGGTTATTGTGAGTTTCGGTTATGTT
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20 ATGACGGAAGTGGCGGGAATGACGGAAGTGGCGGGAATGACGGAAGTGGCGGGAATG
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TATTTGGATTGCAGGCTGGTACGGATGCCGTAGCGGAGGAAGGCGGCATAGTTGGACGAG
25 TCGCTCGACCCGATAGACGCGCCGCTGCAAAACATTTGCGCGTTGGCATTGCCGGAAGAA
AGCAGGCTGCTGTTGAAATCTTCCGTCCATTCCCAAATCAGCCCGTGCATATCATAAACG
CCCCAGTAGTTCCGGGCGGCCCTTTGCCGACATCGTGCAGGCCTTTCCGTCCGCCGTCCGCA
TACCAATCGAGAATAGTGCGGTTGTAGCCGGGTTCTGTTGAGCCGTTTTCTGCGTGGCG
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30 CAATAGGCGTTGGCGGCAACAGGAAACATTGGTTACCGGTTGTTTTAATTCGCCCGCC
TTCCGGCGCATAGCTGCGGCTGCCGTTTTTCATCCAATGCTTCAGGTAAGCGGGTCTGCC
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TCGGATTGGTAACGGGATATTTATCCAGTTTGAACGGTTTGACTTTAATCAGGCCGGTA
TCTTTTTTCAGATAAAGCGGGCGGTAGCTGCCGCCCTTCGATTTGAACCATTTCCGGCAGCC
35 GCCGCTTGAGTGCCGGCGAGTGCCGCGCCGAGGAAAAATAACCGGACATACTTCATAAAG
CCTCCTGACAGGCGGTTAAAATCAATCTTCCGAAAGGAAAGATTGGTTGTTAAAAACCA
CCGCCGTGCGTAATGAAGTACAGCGGCAGTGGTTCGTCCCGCTAATGACGGGTATCCAAT
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40 AGGGTTTTCTGCACCTTCTACTTTCAATTGACCCAGTGCGCCTTTGTTGAATGCGCGGAA
GATAGAGTGGTCAACCAAAGTGTAGCTGCCCGGGATGTCGACTTTGAATTGACGATGGC
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AACATAAACTTTGTGCAAGATTTCCCGGATGACGTGGAAGGAAGATACCAAGTTCCGACC
GCCGTTACCAACGTACATACGTACAGTTTCGCCTGCTTTGGCTTTACGCGGTTATCGCC
45 GCGATAGCACCTACGTGACCGTTGAATACGACGTATTACAGGCTGTTCCGCAACGGCTTT
GTCCATATCGAACGGTTGCAGACCTTGCGCGCCTTTTTTGCTTTGGTGTAGAAGTCGCC
TTGGACGATGTAGAATCTTTATCCACTTTCCGACAGGCTTCTTTAGGCTCGACCAAAT
CAGACCGTACATACCGTTGGCGATGTGCATACCGACCGGTGCGACGCGCAGTGGTAGAT
GTACAGACCCGGTTGCAGGGCTTTGAAGCTGAATGTGGAAGTACGCCCCGGAGCGGTAAA
50 GGTTGCCGCCCGCGCCGCCCTGGCCGGTAGCCCGGTGGAAGTCGACGTTGTGCGGAAC
GGTAGAAGAAGGATTGTTGGAAAATTCACCTTCAACCGTATCGCCTTCGCGTACGCGGAT
CATACGGCCCCGGAACGTCCCGTCAAATGTCCAGTAGCGGTATTCCACACCGTCTTCCAT
GGTCATGGTTTTTTCGACGGTTTCCATTTTACGCGGACTTTGGCGGGGTAGTCGCGGT
GATTGCAGGAGCACTTCGGGAGCGTGGGTGGTAACCGCATCGATAACGGGCAGTTTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 84>:

gnm_84

```
5  GTCGACTCTAGAGGATCCCCTGCGGATTTATTACGATATTACCGTATTACGGCCGCACCG
   ATGCCGCCTGCCCCCGAAAACTTTGGAGAATCCAAAAATGTTTCATTTTGCATTTCC
   GGCACAACTGCCCTGCGCCAAGCGATAACCGATGCCTACCGCCGTAATGAAATCGAAGC
   CGTACAGGATATGTTGCAACGTGCACAGATGAGCGACGAAGAGCGCAACGCCGCCCTCCGA
   GCTTGCCCGCGGTTTGGTTACCCAAGTCCGCGCCGGCCGCACCAAAGCCGGCGGCGTGGA
   TGCGCTGATGCACGAGTTTCACTCTCCAGCGAAGAAGGCATCGCGCTGATGTGTCTGGC
10  AGAAGCCCTGTGCGTATCCCCGACAACGCCACGCGGACCGCCTGATTGCCGACAAGAT
   TTCAGACGGCAACTGGAAAAGCCATTTGAACAACAGCCCTTCCCTCTTCGTCAATGCTGC
   CGCCTGGGGCCTGTGATTACCGGCAACTGACCGCCACAAACGACAAACAAATGAGTTC
   CGCACTCAGCCGCCTGATCAGCAAAGCGGCGCACCGCTCATCCGCCAAGGCGTAAATTA
   CGCATGCGGCTTCTGGGCAACAGTTCGTAACCGGACAGACCATTGAAGAAGCCCTGCA
15  AAACGGCAAAGAACGCGAAAAAATGGGCTACCGCTTCTCCTTCGATATGTTGGGCGAAGC
   CGCCTACACCAAGCCGATGCCGACCGCTACTACCGCGACTATGTGGAAGCCATCCACGC
   CATCGGCAAGATGCGCGAGGACAAGGCGTTTACGAAGGTAACGGTATTTCCGTCAAAC
   TTCCGCCATCCATCCGCGCTACTCGCGCACCCAACACGCGCGGTGATGGGCGAACTGTT
   GCCGCGCCTGAAAGAGCTGTTCTTTTGGGTAAAAAATACGATATCGGTATCAACATCGA
20  TGCCGAAGAAGCCAACCGTCTGGAGCTGTCTTTGGATTGATGGAGGCTTTGGTTTCAGA
   CCTGACTTGGCTGCTACAAAGGTATCGGTTTCGTTGTCCAAGCCTACCAAAAACGTTG
   TCCGTTTCGTTATCGACTACCTGATCGACCTTGCCCGCCGCAACAACCAAAACTAATGAT
   CCGCCTCGTCAAAGGCGCGTATTGGGACAGCGAAATCAATGGGCGCAAGTGGACGGCTT
   GAACGGCTATCCGACCTACACCGCAAAGTCCACACCGACATCTCCTACCTCGCCTGCGC
25  GCGCAAACTGCTTCCGCGCAAGACGCGGTATTCCCGCAATTTGCCACCCACAACGCCTA
   CACTTTGGGCGCAATCTACCAAATGGGTAAAGGCAAAGATTTGAACACCAATGCCTGCA
   CGGTATGGGCGAAACCTGTACGACCAAGTCGTGCGCCGCAAACTTAGGCCGCGCGGT
   GCGCGTGACGCCCCAGTCGGCACACAGAAACCCTGCTCGCCTACTTGGTGGCGCCGCT
   GTTGGAAAACGGCGCAACTCGTCTTTCGTCAACCAATCGTCGATGAAAACATCAGCAT
30  CGACACGCTCATCCGCAGCCCGTTTCGACACCATCGCGAACAAGGCATCCACCTGCACAA
   CGCCCTGCCGCTGCCGCGCGATTGTACGGCAATGCCGTCTGAACCTCGCAAGGCGTGGA
   CTTGAGCAACGAAAACGTATTGCAGCAGCTTCAAGAACAGATGAACAAAGCCGCGCGCA
   AGACTTCCACGCCGCATCCATCGTCAACGGCAAAGCCCGCGATGTGCGGCAAGCGCAACC
   GATTAAAAACCTTGCCGACCAGCAGACATCGTCGGCACAGTCAGCTTTGCCGATGCCGC
35  GCTTGCCCAAGAAGCGGTTGGCGCAGCCGTTGCCGCGTTCCCCGAATGGAGTGCGACACC
   TGCCGCGCAACGCGCCGCTGCCTGCGCCGTTTTGCCGATTTGCTGGAGCAGCACACCCC
   AGCACTGATGATGCTTGCCGTGCGGGAAGCAGGCAAAACGCTGAACAACGCCATTGCCGA
   AGTGCGCGAAGCCGTCGATTTCTGCCGCTACTACGCAACGAAGCCGAACATACCCTGCC
   TCAAGACGCAAAAGCCGTCGGCGCGATTGTGCGCCATCAGCCCGTGGAACCTCCCGCTCGC
40  CATCTTTACCGGCGAAGTCGTTTCCGCATTGGCGGCAGGCAACACCGTCATCGCCAAACC
   CGCCGAACAAACCAGCCTGATTGCCGTTATGCCGTTTCCCTCATGCACGAAGCCGGCAT
   CCCGACTTCCGCCCTGCAACTCGTCTCGGCGCAGGCGACGTGGGTGCGGCATTGACCAA
   CGATGCCCCGATCGGCGGCGTGATTTTACCGGCTCGACCGAAGTGGCGCGCCTGATCAA
   CAAAGCCCTTGCCAAACGCGGCGACAATCCCGTCTTGATTGCCGAACCGGCGGACAAAA
45  CGCCATGATTGTCGATTCCACCGCACTTGCCGAGCAAGTCTGCGCCGACGTATTGAACTC
   CGCCTTCGACAGCGCGGGACAACGCTGCTCCGCCCTGCGCATTTTGTGCGTCCAAGAAGA
   CGTTGCCGACCGTATGCTCGACATGATCAAAGGCGCTATGGACGAACCTCGTCGTCGGCAA
   ACCGATTAGCTCACTACCGATGTCGGCCCCGTATCGATGCCGAAGCACAGCAAAACCT
   GTTGAACCACATCAACAAAATGAAAGGTGTTGCCAAGTCTACCACGAAGTCAAAACCGC
50  CGCCGATGTCGATTCCAAAAATCCACGTTTCGTTTCGCCCATCCTGTTTGAATTGAACAA
   CCTCAACGAAGTGAACGCGAAGTCTTCGGTCCCGTCTGACGTCGTCGCTACCGCTACCGCGC
   CGACGAATCGACACGTATCGACCAATCAACAGCAAAAGGCTACGCCCTGACCCACGG
   CGTACACAGCCGCATCGAAGGCAGGTACGCCACATCCGCAGCCGCATCGAAGCCGGCAA
   CGTTTACGTCAACCGCAACATCGTCGGCGCAGTCGTGCGCGTACAGCCCTTCGGCGGACA
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CGCCGGCGAATGGGTTGCCCGACCTGAGCCAAATCGGACAGGCGGACGAAGCCGCACT
CAAACGCCTCGAAGCACTGGTTCACAACTACCGTTCAACGCCGAAGAGAAAAAGCCGC
5 AGCGGCCGCTTTGGGACACGCCCGCATCCGCACCCTGCGCCGTGCCGAAACCGTCCTTAC
CGGACCGACCGGCGAGCGCAACAGCATCTCATGGCAGCGGCCAAACGCGTTTGGATACA
CGGCGGCAGCACGGTTCAAGCCTTTGCCGCACTGACCGAACTTGCCGCCTCCGGCATACA
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10 GGACAGCGCGCGCAAACAGGAACCTTGCCGCCACGACGGCGCACTCATCCGCATCCTCCC
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15 CCGTACTGGTTTTTGTTCATCCACTATAACAGCAACCCTGTGCGCGTCATTCCCGCAAAA
GCGGGAATCCAGTCCGTTTCACTTTCGGTCAATTCGATAAATTCCTGTTGCTTTTCATTT
CTAGATTTCCCACTTTTCGTGGGAATGACGGCGGAAGGGTTTTGTTTTTCCGATAAATTC
TGAGGCATTGAAATTCAGATTCCCGCCTGCGCGGGAATGACGATTATAAGTTTCCCGA
AATTTCAACATAACCG

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 85>:

gnm_85

TTTGCGGATCAACCCGCCCGGTAGCCGGTCAGTTTGCCGTGCTGCCGATGACGCGGTG
GCAGGGAATCAGGATAGATACTTTGTTTGCCCGTTGGCGGCGGCAACGGCGCGGACGGC
25 TTTGGGGTTGCCCAAACGCTGCGCCTGCTCCTTGTAGCTGCGCGTTTCGCCGTAAGGAAT
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GGCAAAGGTTTTTCAGAGACCCCTTGAAGTATAAGTCCAATTCCTGCCGCAAAAGTTGCGT
CCGCTCATCCTCCCGAAACACAAACCGTCCGCGCAAGGCTTTTTGACGCGCGCAATTTT
CTGTTCCAAATGCTTCTGTCCGACAAATCCAGCAAACACAAACCCCTGCTACCGAACAC
30 CGCCAGCATCTCGCCAAAGGCGTGGCAATGGCGGCACACACCAGCTCGTTCAAACCTGTC
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GCAGCCGATATTGTCCAAAAATCCCGCTCGAACTGTTTGGCTTCGCATTCCGTCAGATT
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35 TATCATAGATTTGACGGCAAAATCCCCAATTTTTGCCATTCCCGCACGCCGAGCAGGAA
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45 GTCGCCGACATTCCCGCCGATGTCCACCGCCGCAACGCGACCTCGCTGCAATTAAGCCGC
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50 CGCGGCCTCCGACGATTGTGCGGCACTTCTTCATCCGCCAGTACCGCAGCCTCATAATC
AAACGCCGCGCCATACGCCCGGAATACGGCAGCTTACCGCATCGCACACTGCCTGCGC
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GGCGACCGCCTTACCCGCCGCGAGCTTCTTACTTCCGCGCCGACGATAAGCACAGCCGGT
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5 AAGCCGCGAGACAGTACAAATCGTACGGCAAGGCAAGGCAACGCCGTACTGGTTTAAATTT
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10 ATGCCCTCTCCCTAACCTCTCCACGGGAGAGGGAATGGATTGCCGTTGAAATAAATCG
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15 CGGCAATGGCTGCGCGTGCCACGTGCGTCAGTTTGGCCGCTTGGGTGAGAAAGGGCTGCC
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20 CCGGGGCAAAAGTATGCACGGGATTGATTGCCAAATGCGGATAGGCAATATGGCCTTGCT
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45 AAATGAACATCATATCCCGCCACAAAACGTTTGAACGCTTCCTCATCGGGGACATAAGCG
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55 CAGAGTCAGGGAAGCTTCTTCGCCGCCCGCATCAGTTTGGTATGGGCAACAACGCGTGC
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CATGTCTTCAGCTTTGGCAATCACGAGATTGTGACCCATGCTGGCTTTGGGTTGCGTACC

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GGTATGTTTCAGAGTGATGGTGAACCTCTTACATGCTTTGCTGACTTGGATGTCTTTGGT
 GTTGAACGTCATATTGTCGTTGGATTGACAGTTGCCGCACAGTTGCCGGCAGCAGGGGC
 TTCGGCAGCATCTGCAGGAGCAGCTTCGGCGGCAGGCGCTTCGGAAGCGGGTGCTTCAGC
 AGCAGGAGTTGCCTCGGCAGCAGGCGCGGCAGGTTCTTGAGAGCAGGCAGCCAAACCGAT
 5 AACGGCGGCAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 86>:

gnm_86

CCGCAATATTCGTGAAACGTCGGTCGGCATCGATGATGTGAAAAACCCCCGCTTTTGCT
 10 GGGTTTGTTTTTTGGGTGGTTTTCTGGCACGGCTATCGTCAGAATCGGGGTGCAGGTTT
 GGATTCGGATTTCAGATTTCAGATTTCAGATTTCAGATTTCAGATTTCAGGTTTGTGTCCCATTGC
 CGCGCTTTATAGTGGAATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAA
 ATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCT
 AAGGTGAGGCAACGCTGTACTGGTTTAAATTTAATCCACTATATCGGTGAAACTCTGAT
 15 TTTAAGGCGGTAGGATGTGGGTTTGCCCATAGAAAGGAATCCTTTCTGTATCAAGCCCT
 GAAAGGGATAATTACATACAAATTCACGCCTTTCCCCCTCATTGGGAATGGATGGAATCG
 TGCCAGATGTGTGCGGCAGTGTATGCCGATATGGTTTTATCATCAGCCCTTTTCGGTTG
 AAACCCCGTCAGTTGCAGCGATTGAGCCTAATCGGTGGCGGAAGTTGCCGCTTTGCATTTC
 GGGGCGGCGTGCAAGTGCAGTGCAGTGCCTTTGATATGCCGTTTGTGTGTTGAAACAGGGTGGTCGG
 20 TGCATACGGGTACGGTATGGCCAAAGCTAAAAGTGAAATACGCTGAAACACTGAATGAGC
 CGCTTTATTTGTTTGTACGGCCTTTGCTGCCCTTGCTATGATTTAAATTTGGATTTCGCCCGCC
 GGATATTTTGGGATATGAAAGAATTTGACTTCATCAAACGGTATTTGCAAACAGGCACGG
 ATAATGATGTGCTATTGGGCATAGGCGACGATGCGGCGATTGTCCGCCCGCGTGAAGGCT
 TCGATTTGTGTTTCAGTGCGGATATGCTTTTGAAGGACAGGCATTTTTCAGATGTCA
 25 AACCTGAAGACTTGGCTTGGAAAGTTTTGGCCGTCAATATTTTCAGATATGGCGGCGATGG
 GTGCGATACCGCGTTGGGTGTTGCTGAGCGCGGCTTTGCCCGAATTGGATGAGGTATGGC
 TGAACCGGTTTTGCGGCAGCTTTTTCGGTTTGGCAAAAAGTTTGGCGTAACGTTAATCG
 GCGGCGATACGACCAAGGGCGATATGGCGTTCAATGTAACCATATCGGCGAATTGCCGA
 AGGGTAGGGCGTTGCGGCGTGATGCGGCGGTTGCGGGCGACGATATTTGGGTGTGCGGGC
 30 GTATCGGTATGGCGGCGGCGGCTTTGAACTGCCGTCTGAAACGGTGTGTGTTGCCAGATG
 AAGTGTTCGCCGAATGCGAACAAAAGCTGCTCCATCCTGAACCAAGGGTTGGGCTGGGGC
 TTGCGCTGTTGCCGTTTGCCAGGGCGGCGCAGGATGTTTCAGACGCGCTCGCGCAAGATT
 TGGGGCATATCCTGACCGCTTCTGGCAAGGGTGCGGAAATTTGGGCGGATTTCGCTGCCGT
 CTTTATCCGTATTGAAAGATATTTGCCCCGAGCGCAATGGCTGTCTTATACTTTGGCGG
 35 GCGGCGACGATTACGAGCTGGTGTATACCGCGCGGAAAGTTGCCGACGCGCGTATTG
 ATGCGCGGAACGGTGCGGCGTACCGCATCGGCAAAATCAACGGAGGATGCC
 GTCTGAAGGTTTTAGATGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 87>:

40 **gnm_87**

CCTAGTTTCTACAGCGGCTGTATGTTGGCAATTCAGCAGCTTCTTCTGTATCTGCTGTA
 CAAATTTAATGAGGGAATAAAATGACCAACAGCTGAAATTAAGCGCATTATTCGTTGCA
 TTGCTCGCTTCCGGCACTGCTGTTGCGGGCGAGGCGTCCGTTTCAGGGTTACACCGTAAGC
 GGCCAGTCGAACGAAATCGTACGCAACAACTATGGCGAATGCTGGAAAAACGCCTACTTT
 45 GATAAAGCAAGCCAAGTTCGCGTAGAATGCGGCGATGCGGTTGCTGCCCGGCAACCGGAG
 CCAGAACCCGAACCCGACCCGCGCCTGTCGTCGTTGTGAGCAGGCTCCGCAATATGTT
 GATGAAACCATTTCCCTGTCTGCCAAACCCCTGTTCCGGTTTCGATAAGGATTCATTGCGC
 GCCGAAGCTCAAGACAACCTGAAAGTATTGGCGCAACGCTGAGTCGAACCAATGTCCAA
 TCTGTCCGCGTCGAAGGCCATACCGACTTTATGGGTTCTGACAAATACAATCAGGCCCTG
 50 TCAGAACGCCGCGCATACGTAGTGGCAACAACTGGTCAGCAACGGCGTACCTGTTTCT

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AGAATTTCTGCTGTCGGCTTGGGCGAATCTCAAGCGCAAATGACTCAAGTTTGTGAAGCC
 GAAGTTGCCAACTGGGTGCGAAAGTCTCTAAAGCCAAAAACGTGAGGCTCTGATTGCA
 TGTATCGAACCTGACCGCGTGTGGATGTGAAAATCCGCAGCATCGTAACCCGTCAGGTT
 GT

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 88>:

gnm_88

GCCGATTGGACGCGCTCGAGCATAATGTTGCCACAATTTTGCCGAATATCAGGAAGCT
 GCCCACATCsTTTCTGCCATGCGCCATCAGGCGGCAGAGCGTTTGAGCGGCGAAACGACC
 10 GAGCATATGCAACACCTTGCCATGAAAGGCGCGGTTTCGACATCGTCCTGTTGCCTTCG
 TCGCCGACGGCACACGGTTTGGAGCAGGTTCAATTTCAAGTTGCCGCCAACAAAGGCAAT
 CCGCCCCGTCTGCTGAATAAAGTTGCCTCCGGCGGCGAATTTGGCGCGTATCAGCCTTGCC
 TTACAGGTTGTTGCCAGCCAATATACCCAAGTTCCACCCCTGATTTTGTGAGGTCGAT
 ACCGGTATTGGAGGGGAGTGGCTGAAATGGTCGGCAAGGCATTACGTGCGTTGGGCAGA
 15 AAACATCAGGTGCTTGCCGTTACCCACCTTCCCCAAGTCGCATCCTGCGGAGAAAACCAC
 TGGCGGGTGCGCAAGCACAGCGAGGGAGAGCAAACCGTCAGCGAAATCAGTATATTGGAT
 GAAATCCAACGGATCGAAGAGGTTGCCCGTATGTTGGGCGGAGAAGTCATTACCGATACG
 ACGCGCAACATGCGGCAGAATTGCTGCAACTTGCCTCGAAAAATAGTTTATTTTAAAT
 CAATCAGTTAAAAATAACTAAAAATAAAGTCTAAACAATAGACAGAACTCAGATAAA
 20 TCCGTATTATCAGCCTTCTTAATCACTTGAACAAGTGATTGTGCTGCACCCGTAGCTCA
 GTTGATAGAGTATCTGGCTACGAACCAGAGGGTCGGGCGTTCGAATCGCTCCGGGTGCG
 CCAGTAAGAAAATACAATATGCGCCCATCGTCTAGCGGTTAGGACATCGCCCTTTCACGG
 CGGTAACCGGGGTTGCTTCCCGTGGGCGTGCCAATTCAAAATGCCTCCGATTATATCG
 GAGGCATTTCTCATTTCTCATTTCTCATACTGAGACCTTTGCAATAACATAGG
 25 TTACTAAAATTTTATGCTCAATCTCATTTTCAAAATGCAAACTTTTCTGATTTTTCCTA
 CTTTTTGCTCAATATTAGGAAGGTTTTAGGCAATTGAAAAATTTTGGCGCATTTTATG
 CGTCAAATTTCTGTTAACAGACTATTTTGCAAAGGTCTCGGATTAAACAAAATCAGGACA
 AGGCGATAGAGCGGAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCA
 CCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTGTAAAT
 30 CCACTATATTGAGTCTCGAGAAGGGAATAAAATTAACATCCTTATATATTGAGTTCC
 TGAGAAGGGAAGATTAAACAAAATTAACGCCCTTTACTTCATACAATCAACAGGGCTTTT
 TCATTCTCTCTTATCTAACAGGGGTACAGAAACCGAAACGGCTGGCAGGGTTAAGGAA
 GTCTTCGAATGTTACGGAACATTTCATCTTGGACAGCAAAGGCAATTTGTTAGGCATTCTT
 TACTCCTTATTTGGGAAGAAAACGTTATGGGTGTTTTCGATATTTTACCGTCAGGATTG
 35 GTATGTTTATTTGAATATGATTTTCTGTGGTCGGGACGGCATGCGGCAAAGACTTAAGGG
 GTTAGATCCTTCTCTGACGATGGCGCGGATGATGGTGCGGTTGGGGTGTAGGGCGTGG
 CGCAGGCGTGTGAAAAGGGATGGGGCAAGCCTAGGATTTGGGCTGCAATGGCGGCGGCG
 CAGATGGGGGCGGTGGCGAGTCCGCGGGTGCCGTGCGCGGTGTTGACGTAGGCATTAGGC
 40 AGGTATGGGCATGGGGTGTGATGCGGTAGTTTTTGTCCAGCGCGAGTTGGTGTAGGTC
 TGCCGCATGGCGCAATGTCGCCGAGTGCGCCGACTAGGGGAAGGTGGTCGGGGCTGTGCG
 CAGCGTATGGCGGCGTGCCCTTGGTGTTTTTGGGGGTTTGGGTGGCGGCAACAATGAT
 TCGGAAAGGGCGGGGTTAAGGTGTGCAATGCTTGGCGGTTTGAGGCTTCTTCGGCTTCG
 TTCCATCCGGTATGGCTGCTGTTGGGAATAAACTCGCGCCGTAGCAGTGCAGTCCGTGC
 CACGACGGGCTGATGTAGCTTTCGCCTGAAACGGCGCAACGCAGTTGTTGCGAAAACGGG
 45 GTGGACGGTGTGAGGCCGTTTGTCCGCTATTTGCCTGAGAGGCAGGGCGGCGAGGTTG
 GTTTCGGGTAGGTAGGGGCTGTTCCGACCGGTGCAGTAGATGATGTGTGGCGGTAAAT
 GTGCCGTTTGGCGTGCTTGCAATCCACTTTTCCCGTCTGGGAAATGTCGGTCAAGGGT
 GTGTCTTCGTGTAGTCCAATGAGCGGATGGTTGAGGAGGGTGGGACGAATGCGGGTGGGA
 TTGAGCCATACCGGCTGTTGCCAGTAGAGTCCGATGAAGGGTGGTGCATGGGACGGAC
 50 AGTGGGATACCGGCGATTTTTCGGCTTCTGCAGATGTGATGCTGCGGTAGAGGTGGTTA
 TGGTGTTTTTGCAAACCAATTTCGTGATTGCGTTGTTGTTCCGGTGGCGCTGTAATTGAGG
 TGGATGATGCCGTTGCCGCCCAGGTTTCGGATTCCGGGAGGATGTGTCGAGCAGGCGT
 TTGGTGTAGCCGTAGCCGGCAAGCAAAGTTCCGTCTGTTCCGGTGTGCTGCGGCGAGATT

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TTGGCGTAGAGCAGCCCTTGGCGGTTGCCGCTGGCGGCTTGGGCGGCTTTTCGGGCTTCC
 AATACGGTAACGGAAATGCCGTGTGATGCTAAGGCGTGGGCGGTTGCCGCGCCGATATG
 CCCGCGCCGATAACGAGGATGTGTTCCGGTTTTTGGCGTTCGGATGTTTGTGGAAGTGCA
 AACCAGGGTTTGTTCGGGCTTGCCTTTCGGTTTGGCGGATGGCTTCGGTCTGCCAGGAAATG
 5 TGGTGGAAATGTTTCGTGCAGGTGGTGGGTGCGTGAAGGGGGAACCAGCCAGAAGCGGACA
 TCGGGCAGGATGTGTTTCGATGAGGTTGATGCTGTGCAACTGGAGGCACTGCATTGCCTGA
 TCCAAACGGTGCTTCAGACGGCATTCCGCGTCCGAAGCATCTTGTGCGGTTTGAAAATCG
 GGAATCTGATTATCGGGGAGGCAGATAATCAGGTTGAGCGGGGGTGCCTGTTTGCAGATG
 10 GCTTGGTCGAGTGTGCGGATGTGCGGAATGCCGTCCCATACGAGATTGTCCATATCAATG
 CCGTTTTAAAGTGTGGGTTTGAATATCGGTATCGGGATAAAGCTGTTAAAATACGCGCGGT
 TTGAAGGCACGCCCTGCGCCTGCCGATATTGTATGCCGAACCGAGGTGTTTTTGAATAA
 TATTCCTGTTGAAATCCGTTTGTGAAAAACCGTACCGTGTGGTTTTGACTTATGGGGA
 CGAACCTAAAAATCTGCCTGCCGAATTTTACGCGTCTATTGCCGAGTGCAGGAGTGC
 CGGACACGGCGTGGGACAGGATGTTTTGCAGACCGCAAGGCGGATGTCCAAATCGCGGA
 15 TTTGCAGCCTGTGCGACAGTACGCGCTGAAAATCAGTTTTTTCAGACGGGCACGACAGCGG
 TCTTTACGATTGGGCGTATCTGCACAGACTGGCATAACGATACGATGCGATGTGGCAGGA
 ATATTTGGACAAATTGGCGGCGCGGGCGCGTTCGCGTTTTGAAGAGAAAATAAGACCGGTC
 GGATGGTAATCTGACGGGCAAGGTATCAGAGAGGTGGTTAGAATATGGGCGGACAGAAA
 ACGCATTTTCGGATTACGTACGGTCAACGAAGATGAAAAAGCCGGCAAAGTGGCGGAAGTG
 20 TTCCACTCCGTCGCCAAAACTACGACATTATGAACGATGTGATGTGCGCAGGGCTGCAC
 AGGGTGTGGAAGCATTTACCATCAACACGGCGCACCTGAAAAAAGGCGATAAAGTGTG
 GACATTGCGGGCGGTACGGGCGATTGTGTCGCGCGTTGGGCGAAACGGGTCGGCAAGGAA
 GGCGAGGTTTGGCTGACCGATATTAATTCCTCTATGCTGACCGTCGGGCGGACCGTCTG
 TTGAACGAAGGCATGATTTTGGCGTATCGCTTGGCGATGCGGAAAACTGCCTTTCCCC
 25 GACAATTATTTCAACTTGGTTCCGTGGCGTTCGGCTTGGCGAACATGACGCATAAAGAT
 GCCGCGCTGAAAGAGATGTACCGTGTGTTTGAACCGGGCGGCACGTTGCTGGTGTGAG
 TTTTCCAAAATCTACAAACCTTTGGAAGGCGCGTATGATTTCTATTTCGTTCAAGCTGCTG
 CCGGTCATGGGCAGGCTGATTGCGAAAGATGCGGAGAGTTACCAGTATCTTGCCGAATCC
 ATCCGTATGCACCCCGATCAGGAACTTTGAAACAGATGATGCTGGATGCGGGCTTCGAC
 30 AGCGTGGATTATCACAATATGAGTGCGGGCATCGTCGCGCTGCATAAGGGCGTGAAATTT
 TAAACGGACTGGCTGTGCAGCCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 89>:

gnm_89

35 GTAGAAATTGCTAAGGAATCCTCACGATGCTTCTAACACTTTCTTTGCGTGATTTTGTCTAT
 TGTTGAAAATCTGAATCTGGATTTTCAAAGCGGCTTTACCGTATTGACCGGAGAACTGG
 CGCGGGCAAGTCCATTACTTTGGATGCGATTGGTCTGCTGTTGGGCGATAAAGCCGATTA
 CAGCCAAGTCCGCAGCGGCGCAAGAAGCGCAGTTGTGCGGCTTGTTTGATATTTCCCA
 TTTACCTGTTTTAAAGCAGAATTGTATGAACAGGGGCTTTAAACGACGGAGAAGAAGA
 40 ACTCAGTATCCGCCGATTATCGATGCCAAAGGCAAAAGCCGAGCTTTATCAACAATCA
 GGCCGCTACCTTGGCGCAACTCAAAGCCGTGCGTAGCCAGCTTATCGACATCCACGGGCA
 AAACGCCCATCATTGCTTAATCAGGAAGCGCCAGCGCGAATTGTTGGACGCATTTGC
 GGGTAGCAGGGAGCAGGCGGAAACCGTCAGGCAGCTTTATCAAAATTGGGCCAATGCGAA
 AAAAGCCCTCCAAGAGGCGCAGGAACACGCCGATGCCGTATTATCGAGCGGGAGCGTCT
 45 GGAATGGCAGTTTAAACGAATTGAATCAGTTGGACATTAAACAAGGCGAGTGGGAAGCCCT
 CAGCCAAAGCCACGACAGCCTTGCCCATTTGCCGAGCTGTGTCAGGCTGCCGAAGAAGT
 CGGAAGCAAGATTGACGGCGACAACGGCATCCAACGCCATATCTATCAATGTCAAAAACT
 ATTGGCCAATCTGCAAAACATCGAGCCGCGCTTTGCCGAGAGCCTGAATATGTTGGCAAG
 CATCGAAGCCGAATTGGGCGAAATCAGTGCCAATATGCGCGATGTGGCAGGTCGAGCGA
 50 CATCAATCCCAACGAACTTGCCGCACAAGAGCAGCGCATGGGCGAGCTGATGGGATGGC
 GCGGAAATACCGGATCGAGCCTGAAGAGTTGCCTGCCAAGTTGGCAGAAATCG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 90>:

GNMCD84F gnm_90

5 TCGACTCTAGAGGATCCCCGGGCGTATTCGGCGCGTGGCTTGCCACACCCAGCACCATT
GGCTTCAAAGCCAAAAATCAACACACCGTCAAAAATGCCGTCCGAACCCGTTTTTCAGAC
GGCATTTC AATTTGCCTAGTATAATGGCGCATTTTTCCAACAAGGAACCTACCATGCTGA
CCTCGGAACAAGTAAAGCCATGATTGAAGGCGTGGCAAAATGCGAACATATCGAAGTAG
AAGGCGACGGACACCATTTTTTCGCCGTCATCGTTTCATCAGAATTTGAAGGCAAGGCAC
10 GCCTCGCGCGCCACCGCCTGATTAAAGACGGACTCAAAGCCCAACTGGAAAGTAACGAAC
TGCACGCACTTTCATTTCGGTTGCCGCCACTCCGGCGGAATGGGCAGCCAAAGCACAAT
AATCGCCACACAAAAATGCCGTCTGAAACCATTTCGTTTCAGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 91>:

GNMCD96F gnm_91

15 TTGCATGCCTGCAGGTCGACTCTAGAGGATCCCCGGCGGATTTTTGCCGCGTGTCCGCG
TCGGCGTGTGCGTTTAAGGCTTCGAGGGCGTTTGGCGCGGCTTTGAGGCGGCTGCGTGTT
TCCGCCCAGACCGTCCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 92>:

GNMCE20F gnm_92

CCGGGACCTTTTTTCTCCAGAAAGCCGCAATGGGGCTGTCGGGCCGGGTGGGCATCAGC
AGCTCGATCAAGGTGTCGCCACCACGAAGGCGCGGACCCGCACACCCTGAGTTCACACG
TCTTCGTGCGGGGCTTCGGGGCGCAGGCCGAGCGCGACATAAGGTGCGGCGCCCTGATCC
AGATCGGGGGTGGCGATGGCGACGTGGTCGAGGAGCATGGCCTCAGCTTATACCTGCTGA
25 CCAGGACGCGGCACACAAAAATGAACCGGGAACAGGTTTTTTCTGGACGCCGCCCCGCT
CGTTACACTCTGAAGTGTGACCCTGACCGCCCTGCTCGCCCTGCTGCTCTCGTACCTCAT
CGGCGCTATTCCGGCGGCGGCGTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 93>:

gnm_93

30 CTTCTGTCACGAAAGCGCGCAAAACATCCGCCGCATCCTTGCCGAAGTGCCGATACACAT
CATCCAATTCCACGGCGACGAAGACGACGCATTCTGCCGCCAGTTCCACCGCCCTATAT
CAAAGCCATTTCGTGTTTCAGACGGCATCAGACATCCGAAACGCCGCCACGCGCTTCCCCGA
CGCTCAGGCACTGCTGTTTCGATGCCCTACCATCCTTCGGAATACGGCGGCACCGGAAACCG
35 CTTCTGACTGGACGCTGCTGGCGGAATATTCGGGCAAACCGTGGGTGCTTGCCGCGGGCT
GACCCCTGAAAACGTGCGGCGAAGCCGTCCGCATCACCGGAGCGGAATCGGTCGATGTATC
CGGCGGTGTGGAAGCGTCTAAAGGCAAAAAGATGCCGCCAAAGTCGCCGCCCTTATCGC
AACCGCCAACCGCCTATCCCGTTAAAGCAACAAAAATTGCCGCCGGAATGACTTATAGTG
GATTAACAAAAACCAAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAG
40 GTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTAAGTGTCTGCGGCTTCGTGCGC
TTGTCTGATTTTTGTAAATCCACTATAATCTAAAAATTTATGCTATTAAATCAGTAAT
TTCTGATGAATTTTGAAAACCTAATCCCGTCATTCCCGCGCAAGCGGGAATCCGGCTCGT
TCGGTTTTCGCTTGTTTTAAGTTTCGGGTAACCTCCACTTCGTCATTCCCGCGCAGGCGGG

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5 AATCCGGTTCATTGAATTCAGCTATTTAGAATAAATTTTGAACTCTAATCGCGTCATT
CCCACGAAAGTGGGAATCCAGGACGCAAAATCTCAAGAAACCGTTTACCTGATAAGTTT
CCGCACTGACAGACCTAGATTCCCGCCTGCGCGGAATGACGAATCCATCCATACGGAAA
CCTGCATCCCGTCATTCCACGAAAGTGGGAATCCGGTTCGTTTCGGTTTCGCTTGTTTTA
10 AGTTTCGGGTAACTTCCACTTCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTT
TCAGTCATTTCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTACGCGGGA
TGACGGATTTTAGGTTGGGGGCATTTATTGAAAAAGCAGAAAACCAAAACAGCAACCT
GAAATTCGTCATTCCCGCGCAGGCGGAATCCAATGCGTTGAGTTTCAGCTATTTAGAAT
AAATTTTGAACTCTAATCGCGTCATTCCCACGAAAGTGGGAATCTAGAAATTTAATGTT
15 GCGGCACTAGCCAAAAAACCGAAACCGAACGACTAGATTCCCGCCTGCGCGGAATGA
CGGCTGCAGATGCCCCACGGTCTTTATAGTGGATTGAGACCTTTGCAATAACATAGGTTA
CTAAAATTTTATGCTCAATCTCATTTCAAAATGCAAACTTTTCTGATTTTCTCTACTT
TTTGCTCAATATTAGGAAGGTTTTAGGCAATTGAAAATTTTGGCGCATTTTATGCGT
CAAATTTTCGTTAACAGACTATTTTGGAAAGGCTCTCGGATTAAACAAAATCAGGACAAGG
20 CGACGAAGCCGCGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCT
TAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTAAGTTTGTTAATCCA
CTATAATATGCACAGATAATATCAACCGTTTTTAACAAAGATATTCGCGCATTTGCGT
AAAGTTTCAGCAAGAAAACTACAAACCGATCGCGCAGGAAGCGGATGTCGTCGCCCAA
CCGGATTTGACTTTGACCCAGACCTTCAAAAATACTTTGGTATCAACAGTTTTTCCATA
25 TCCAACCGCGCTTCGGTGGAAATTTCTTCAAACGTTCTCCGCTTTACCGATTAAAT
GCCTTTTGGCTTTCTTATCGACCAAACGGCGATATAGATGCGGTTCAAACCGTCTTCC
TCTTCAAACGTCCTCACTTCGACGTTTCATCGCATAAGGCAATTCCTCGCCAAGTAGCGG
AACAATTTTTCACGCACGATTTGCGCGCTGG

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 94>:

gnm_94

TTTTAGCTTGGTCTTAACCCGCCCCCTGCTTGAGTTGGGAAAGGCTTTCGACAAACACGA
TGCCCATCAGTGGTCCAACCTGCTGACGCAAAATCGCCAACAAGCCGTCGCGCTCCA
30 GCGTGAACTTTTCGCTTTTTCGTTCAAAGCCTCGACGGTTGCATAATCTACATTGAC
GTAAAGTATGCACTGGCAGCGGACCTTCACGATACCATTCGCTACGGGCAATATCCGCAC
CATTTCAGACGGCCTGAAGTCATAATCTTAATGCCTTTAGCACCAGAACGCATTGCAATTT
GCATTGCTCGTTTCATAGCAGCAGGAATTGAACGCGCTTTTCCAACGCTGGGCAATAC
CGTCAGCAATAATTTGAGCATCCAACCTCAGGACGGCGAATCTCTTCAATATTTACATGAA
35 CAGGTACACCCATCAAGACTTGCAAGTCACGTTTCAAACCTCGATATCCTCACCTTTTT
TACCGATAACCAACCCGACGAGCGGAGTGAATGGTAATGCGTGCAGATTTTGCAGGGC
GTTCAATAACCACTCGACCAACCGAAGCATTGGCCAATTTTTCAGCAGCAATAATTGCGAA
CATCGATATCCTGCTTCAAACAGTAGAAAAGTCGGTGCTTTTAGCAAACCATTTTGAAG
CCCAGTCTTTAGTTACCGCCAGGCGAAAGCCTGTAGGGTTAATCTTTGTCCCATAGCTT
40 TTCTTAGTTACCACTGTCACATTGATATGACAAGTTTGTGTTTTCGATGCGGTTACCGC
GACCTTTGGCGCGAGCTTGAAAACGTTTCAAGCTTGGGCCTTTGTCAACAAAGATAGTTA
CCACTTTCAGTTCATCAATGTCCGCACCGTTATTGTGCTCGGCATTAGCAATAGCTGACT
CCAATACTTTTTTAATCAGCTCGGCACCTTTTTTAGGACTGAAAGCCAAAATATTCAAAG
45 CTTGGGCAACGTTCTTTACCACGAATCAAATCAGCTACCAAACGAGCCTTTTGAGCAGAGA
TACGGGCATTTTATGTTGTGCATTTACTCTCATGATTCACCTTATTTCTTTTAGCCTT
TTTATCGGCCAAGTGGCCTTTAAAGGTACGGGTCAATGAGAATTCGCCTAATTTATGACC
AACCATATTGTCGCTGATAAACACAGGCACATGGGTGCGGCCGTTGTGCACAGCAATGGT
CAGACCGATAAAATCAGGCAGAATGGTAGAACGACGAGACCGGTTTTAATCGGGCGTTT
GTCGTTGCTTGCGCGAGCAGCATCTACTTTTTTCAGCAAATGCAGGTCTACATATGGGCC
TTTTTCAATGAACGAGCCATACTAAATTAACCTTTATTTGAGTAACGGCGACGAACAAT
50 CATGTTATCCGTGCGTTTGTATTACGAGTGCAGGTAGCCTTTAGCAGGAGTACCCCATGG
GCTGACCGGTTTCGCGGGCCTCGCCCGTACGGCCTTACCACCACCATGCGGGTGATCGAC
AGGGTTCATGACAACACCGTACAGTCGGACGAATACCGGCCAACGATTGGCACCGGC
TTTACCGATTTTTTTTCAGGCTTTGCTCTTCGTTACCGACTTCACCGATGGTTGCACGGCA

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ATCTACGTTGATTTTACGGACTTCGCCAGAGCGCAGGCGGACTTGAGCGTACGCGCCTTC
 TTTAGCCAGCAATACCGCAGAAGCACCGGCAGAACGTGCAATTTGCGCACCTTTACCTGG
 TTTTATTTTCGATACAGTGAATAGTTGTACCAACAGGAATATTGCGGATCGGCAGAGTGT
 5 ACCTACTTTGATCGCAGCTTCAGCACCGGAAACCAATACTGCACCGGCTTGAATACCACG
 AGGAGCAATAATGTAGCGACGCTCACCATCTGCATAGCACAACAGTGCGATAAATGCAGT
 ACGGTTAGGGTCATATTCGATACGCTCTACTTTTGAGGGATACCGTCTTTGTTACGTTT
 AAAATCTACGACGCGGTAATGATGTTTATGACCACCACCTTTATGACGGGTAGTAATATG
 ACCATTGTTGTTACGACCGGCAGTAGAATTTTTCTTTCCAGCAGAGGTGCATAAGGTGC
 10 ACCTTTGTACAAACCTTCTGTTACCACGCGAACCATGCCGCGACGGCTGCAGAGGTCCG
 CTTTATTTTAAAGATTGCCATTTGTTTATTCCTTATCTGCAGTGCAGCAGCGGCTTCC
 AAATCCAACCTTTGACCGGCAGCCAAGCTTACATAAGCCTTTTTAACATCGCTGCGACGA
 CCTAAAGTGCAGACAAAACGTTTAACTTTACCTTTAATGGTAACAGTAGTAACGTCTGCA
 ACTTGAACGCCGAACAGCAGCTCAACAGCCGCTTAAATTTACAGTTTGGTTGCATTTGCC
 AAAATCTTAAACGTCAATTTGGTTACGTTTTTCAGCCAATACGTTGCTTTTTTCAGAAACG
 15 ATAGGTGCCAAAATCACTTGAGTCAAACGTTGTGATTACATACCCATTGCTCCTCTAATT
 GTGCAACTGCATCTTTAGTGATGATTACTTTTTGTAAACGCAGCAAGCTGTAAGGATCAA
 CTTGTTGAGCTTCCAAAACCAACACGTTTGGCAAGTTGCGTGAAGCCAAGTAAACATTCT
 CGTCGAGCTGTTTGGTTACAAACAACACTTGCTCCAGACCCAGATTTTTCACTTGTTCCG
 CAAAACTTTGGTTTTAGGAGTTTCGGCAGTCAACGCCTCAATCGCAAAACAAACGCTCGT
 20 CACGAGTCAATTGGGACAGAATAGTCGCCATACCGGCACGGTACATTTTGCAGTTTACTT
 TTTGAGTGAAGTTTTTCGTCGGGTTTGTTCGGGAACGCGCAGCACCTTTACGCCACAGCG
 GAGAAGAAGCTATACCGGAACGGGCACGGCGGTACCTTTTTGACGCCATGGTTTTTTGG
 TTGAGTGTTTTACTTCGGCACGGGTTTTTTGAGCGCGGTTACCGGAGCGGGCGTTTGCCA
 AGTAGGCATTTACCAGCTGATGAACCAACGCTTCATTGTATTGCGGGCGAACAAAGCAT
 25 CAGAAACAGACAGACTGCCTGAAACTTGTCTTTAGCGTCAATTACTTTCAATTCATTAC
 CGCACCTACTTTACGCTGGGACGAACATAACATCGCTGTTGACCGCACCCGGGAACAGC
 ACCCTTAACCAACAGCAGTTGGCGTTCGCGTCAACACGGACAACCTTCCAATTTTGAAC
 AGTTGCTTTGGTGTTGCCGTATTGGCCGGCCATGCGTTTACCGGGGAACACGCGACCCGG
 GTCTTGCGCCATACCGATAGAGCCTGGAACACGGTGAGAACGGGAGTTACCGTGGGAAGT
 30 ACGTTGGGCACCGAAGTTATGACGTTTAAATCGTGCCGGAGAAACCTTTACCTTTAGAGGT
 ACCGGTTACATCGACAGTTGACCGACTTCAAACATAGAAACGGTGATTTCGTCACCAGC
 TTTCAATTCAGCCAGTTTTCTTCAGTCAAAGCAAACCTCAATCAAACCGCGACCGGCTTC
 AACACCTGCTTTTGCAGAGTGCCCGGCTTCGGCTTTGTTGACACGATTGGCTTTTTTCTG
 ACCAAAGGTAACCTGAACGGCAGTATAGCCGTGAGTATCTTTGGATTTTACTTGTGTAAC
 35 GCGGTTGGCAGACATATCCAAACGGTTACCGGAACAGAAACACCCTGTTGTCGTAACAC
 GCGGGTCAATTACCAACT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 95>:

gnm_95

40 GGTTTTAACCTGCAAAACATCGTCCGCATTCTGCGGATTCTGCCAAACGGCGAGATAGCC
 GTAAGTATCGGCAGCCCGTGCCGCCGAGTCATCAGGCATAGTGCCGATACGGCCAGTAT
 CTTTTTCATCATGATAAATTCCCGACGGTTCGTCCAAATTCGTGTTGATTATAAACA
 AACAGGATAAGTCCCGCCTTATCGGCTTATCCCTCCCCGAGATTGCACCGCCGGGTATG
 45 GCAAAACGATTTACGACGCGCAATCCGCATACCGCCGCTTAGCGGCAAGCCGTTGTTT
 TCAGACGGCATTGCGGCCAACCTTTGCGGCGGGCGAAAAACCTTGTCTTATAATTTATCC
 CGTTTTCAAATCAGCATACGGTCGGAAATGCAAAAAATATCTTTCAATTTGTTGAAGCCT
 GCAAACTCCCCGAAAATAGGGAAACGCCGCCCGGTTTGAACGGCGCGCCGCATATCCG
 ATGCCCTCCCCCGATACCTTCCGGCAAGCCAGAAATGCCCGGCAACAACATCCATCCG
 GCAAAAATCCGAAACAACACCCGCGCGCAGAGTCAAACCGCCCGCAAAAGCATC
 50 CGCCATCAGAAAAACAACCGCCTCCGAGGGCTTCATCCTAAAGGGCGTATTGTTGATA
 ATGGTTTGGGTTATAATCCCCTATCGATTCTCCACGTCGGTGAGACACTTCAGCTATGGA
 AACCCCGACCAACACCCCGCAACGCTCCCTGCGTCAAACAGTATCTACCTGCTGCCAA
 TTCTTTTACTATCGCCGCGCTGTTTCCGCGTTTTACGCAATCACCAATCCATGCACGG

-623-

ACGTTATGAAACCGCCGCCATCGCGGTATTCATCTCTATGTTGCTGGACGGTATGGACGG
 GCGCGTGGCGCGGCTGACCAACAGCCAAAGCGCGTTCCGGGAGCAGCTCGACAGCCTTGC
 CGATATGGTCAGCTTCGGCGTTGCTCCCGCTCTGATTGCCACAAATGGCAGCTTTGGCA
 GTTCGGCAAAATCGGTTATTCCGTCGCCTTCATCTACTGCGCCTGCGCCGCCCTGCGCCT
 5 CGCCCTGTTCAACACACTCATCGGCAAGGTGGACAAACGCTGTTTATCGGCGTGCCAG
 TCCGACTGCGCGCCGCGCTGATTGTGCGGCTGATTTGGGTCAACCACAGCGTCGAAAAATT
 CCCC GCCGTCCACTGGTGGGCATTGGGCATCACACTGTTTGGCCGCCCTGTCTGATGATTGT
 CCAAAATCCCTTTTTGGAGTTTTAAAGAAATCAACATCCGAGACAAGTCCCTTTGTCTGG
 AATGCTGCTTGGCGTCTTACTGCTGCTTCTGGTCACTTGGGAACCGTCGCTCGTCCTCTT
 10 CCTGTTCTTTCTCGGATACAGCCTGTCCGGCTACATTATGGCGGCACGCCGATTTTGAA
 AAAGTACAGAAAGCGGATTAAATGTGGCATTGGGACATTATCTTAATCCTGCTTGCCGT
 AGGCAGTGCGGCAGGTTTTATTGCGCGCCTGTTTCGGCGTAGGCGGGCGGCACGCTGATTGT
 CCCTGTGCTTTTTATGGGTGCTTGATTGTCAGGGTTTGGCACAACATCCTTACGCGCAACA
 CCTCGCCGTGCGGCACATCCTTCGCCGTCATGGTCTTCACCGCCTTTTCCAGTATGCTGGG
 15 GCAGCACAAAAACAGGCGGTGCGACTGGAAAACCGTATTTACGATGATGCCGGGTATGAT
 ATTCGGCGTATTACGGGCGCACTCTCCGCAAAATATATCCCCGCGTTCGGGCTTCAAAT
 TTTCTTCATCCTGTTTTTAACCGCGTCGCATTCAAACACTGCATACCGACCCCTCAGAC
 GGCATCCCCGCCCGTGCCTCGGACTGCGCGGACTGACTGCGGTTTCCACACTGTTTCGGCAC
 AATGTCGAGCTGGGTGCGCATAGGCGGCGGTTCACTTTCCGTCCCTTCTTAATCCACTG
 20 CGGCTTCCCCGCCCATAAAGCCATCGGCACATCATCCGGCCTTGCTTGCGCGATTGCACT
 CTCCGGCGCAATATCGTATCTGCTCAACGGCCTGAATATTGCAGGATTGCCCGAAGGGTC
 ACTGGGCTTCCTTTACCTGCCGCCGTCGCGCTCCTCAGCGCGGCAACCATTGCCTTTGC
 CCCGCTCGGTGTCAAACCGCCCAAACTTTCTTCTGCCAAACTCAAAAAATCTTCGGC
 ATTATGTTGCTTTTGATTGCCGGAAAAATGCTGTACAACCTGCTTTAAAACACACGAAAA
 25 AACCTTTTTACCGTTTGCACAAGCAATTAATCAGGACAAAGCTGCCAGTCTCCTGTTCC
 GACAAAAGGACAGACAACCTGACCGAGACCTTTGCAGAATATACGAAAAACGACAGATAC
 CGTCTGAAACCACATTCCGACAATCGGCAGGGTTTCAGACGGCATCTGATAATTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 96>:

30 **gnm_96**

CCTTATTGTGGGAAGTATGCGGCGAAGAGGAATTTACCGCCGAAGCCATCGCCGAAGAAT
 ATTACGGCCATGCGCCGACCAAAACCGAGCTGGCGGCAACTTTGATTGCGCTTTACGCCG
 CGCCGATGATTTCTACAAAAAGCCAAAGGCGTGTTCAAAGCCGCGCCGAAGAACTT
 TAAAACAAGCACTTGCCGCCATCGAACGCAAAAAACAGCAAGACGCGCAAATCGACGCTT
 35 GGGCAGAAGCCTAAGGCGTGGACTCCGCCACCACTCAAATCAGCTCTGTAAAACCGGTC
 TGAGTCTTCTTTTCCCCCGTACTCAATAATTTATCCGCGCCTCTTTACCACCAAATCA
 TTTACAATTTGTAAAAATCGTGTGCGCTTTGAAGGTTGCGGCAAATTCAAAGCCTCCTGA
 TAAATATTTAACATGGCTTTATGAAATTCTTGTTCTAACTGATTTTATCCATCATTCTT
 CTTCCAATATTTAGACCGGATTATTCTTACCCAGAATTTCTTTTCTCATCCGCTCCCGT
 40 CTGATCACCTACCGAATCAGGTGCTCTGAAACAGTCTGAAATCGCTTTTCAGACGACCCT
 CAGCCTTTTTCATACCCTTCGTAATAATACGACTGCTCGATACCTTTAAAGATGATTTC
 CGGTTGTCCACATCGTCAGTCAGGTTGTCTTTAACAGAAAGCGAGTTCTAAATCGTTG
 ACGGGGCTGCGTTCCATCGCCTGCAATACAGGGTTTTACTTACATTTTGCCAGTTCACG
 ACTTTTTTCAGGTTTTTTTTTCAGCACCAATCCAGCCAGATGCGGGTACTTCTGCCATTA
 45 CCCTCCAAAAACGGATGGGCAATGTTCAATTCAACATATTTGGCGATGATTTCTTCAAAA
 GTCCGCTCGGGCATCTGCTCGATTTTAACCAAAGCCTCTTTAAATACATGGCGTTGGCA
 AAACGAAAACCGCCTTTGGAAATGTTGTCTTCCCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 97>:

-624-

gnm_97

CTTGGTGTGATACCATTTCGATTCCATTTCGATGATAATTCCATTTCGATTCTATGCGATGA
TTCCATTTCCTTTCCATTAGAACGCGACACGGCGAAGGCGATATTTTGGTATTCCTGCCG
GGCGAGCGCGAAATCCGCGAAACTGCCGAAGCCCTGCGCAAAATCCACGCTGCGCCGCAAC
5 GACGAAATCCTGCCCTGTTTCGCACGCCGTGTCGCACGCCGAGCAGCACAAAATCTTCCAC
CCCTCAGGCGCGAAACGCCGCATCGTATTGGCAACCAACGTCGCCGAAACCTCGCTTACC
GTGCCGGGCATCAAAATACGTCATCGACACCGGCCTCGCGCGTGTAAACGCTATTCCGCA
CGGGCGAAAGTGGAGCAGCTTCATATCGAAAAATCTCCCAAGCCGCCGCCGCCAACGA
TCCGGCCGCTGCGGACGCGTCTCCGCAGGCGTGTGTATCCGACTGTTTTCAGAAGAAGAT
10 TTTAACAGCCGCCCGAAATTTACCGACCCCGAAATCGTCCGCAGCAACCTCGCCGCCGTC
ATCCTGCGCATGGCAGCATTGAAACTCGCGCATGTGGCGGCATTCCCGTTTTTAGAAATG
CCCGATTACGGTATATCAATGACGGTTTTTCAGGTGTTGTTGGAGTTGGGGCGGTGGAG
GCCGTCTGAAAACAGGCAGACATAAAAGAAAATCCGCGTAGAGTGATGTAACCTACCCT
TGCTTTAATAAGTAGAAAATGGTGGGTTTACGTCCCCCCTGCGGCTACTAAAAAAATAT
15 AAGAGTAAACAACCTTTTTGAAAGAAAATGTATGGACGAAATTCAAATACCCAAAAAAG
TGGAATTACAAACCAAACCTAGAAAATGAAAAGATTGTTTTATCGAAAGGTTCTACCACGA
TTATTGTTGGTGCTAATGGCACAGGGAACAAAGATTAGCTGTTTATATTGAAGAACAAT
TAAAGGAAAAAGCACACAGAATTTCCGGCTCATAGAGCATTAAATTAACCCCTAATGTCA
ATAAAATACCAGAAAAGAGTGCCAAAACATATCTATCTTATGGTCAGAACTGGGATGGAA
20 TCGATGTATCAAAATAGAAAAATTTATAGATGGGATAATAACTCATATACTCATTTACTCA
ACGATTTTGATTGGTTATTACAATATTATTTCGCTCAACAAAATAATATTGCGGTAGCAA
ATAATCAAAAGCTCAACCGTAATGAAAAAGTAACCAATTCAAAAACAAAGCTAGATATTT
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TTCAAGTCTCTGCTGTAGATAATGAGGAATTGTATTCTGCCTCAAATATGAGTGATGGAG
25 AGCGAGCACTTTTCTATATTCTTGGACAAGTTTTGTCTAGTAGATGACGGTCTGTCTTAA
TTTTTGATGAGCCTGAATTACATATTCATAAATCAATTATTTCAAATCTATGGGATAAAA
TTGAAGAATTACGACCTGATTGTTTCATTTCTAATCATTACACACGATATTGAATTTGCTG
CAACTTCGAGTAGCTAAAAAATATGTTATCAGAAATTTATTATCCGACCCCTGCTTGGGATA
TTTCTGAAGTTCTCGAAAGTAATTTTGATGAAGAAACAATAACGATGATTTTAGGTAGCC
30 GTAAGCCAATATTATTTGTTGAGGGCAACAATAATAGTTTAGATATTGCTACTTACCGCT
ATTGTTATCCTGATTGGACCATCATACCCAAAGGGGCATGCAAAGATGTCATTCAATCAG
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ACATTTTACCTGTATCCGAAATTGAAAATCTTTTAGCTTAAGTATGATGAGCAAAAGAGA
35 TATTGTAAGTAAATCAATATTTCAGATGAAGAATTACTCAATAAACTTAATGGATTAAAT
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40 ATTTGGATAAATTACTTACTATATATGATAATAAAGGACTCTTGGCTAAATCAGCTTGTG
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GAAGGAATAAAGATTTTATTGATGCAATCAGACAGAACTTCCAATTCTGGATTAAATAA
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45 GACCGCAGCCAATACCGCCTGACCAAACCTCGGCGAACAATGGCGCACCTGCCTATCGAC
CCGAAAATTGCGCGTATTTTGTAGTATTATTCGGTTTTTAAAAATGCCCGATTGCGCGT
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50 TTGTGAAATATTAATGATGAAAAATCTTTCCTTACGCTTGTCTGTATTTCGTCTTTACT
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TAAGGTGACCGGTTTGTGATTGCGGTGTTTTTTCGCTTCAGCATATTGCCAACAATGT
GCATTACGCGGTTTATCAAAGCTGGATGACGGGCATCAATTATTGGCTGATGCTGAAAGA
55 GGTACCAGAGTCGGCAGCGCGGTGCGTCGATGTTGGATAAGTTGTGGCTGCCTGTGTT
GTGGGGCGTGTGGAAGTCATGTTGTTTTGCAGCCTTGCCAAGTTCCGCCGTAAGACGCA

TTTTTCTGCCGATATACTGTTTGCCTTCTAATGCTGATGATTTTCGTGCGTTTCGTTCGA
CACGAAACAAGAGCACGGTATTTTCGCCAAACCGACATACAGCCGCATCAAAGCCAATTA
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5 CGTCTGTATTATGGGCGAAAGCGAAAGCGCGGCGCATTTGAAGCTGTTTGGCTACGGACG
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10 GAACTTAATCGGTAAGAAATGGATAGACCATCTGATTACGCCGACGCAACTTGGCTACGG
CAACGGCGACAATATGCCCGATGAGAAGCTGCTGCCGTTGTTTCGACAAAATCAATTTGCA
GCAGGGCAAGCATTTTATCGTGTGACCAACGCGGTTTCGCACGCCCCATACGGCGCATT
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CATCCACAAAACCGACCAATGATTCAAACCGTATTCGAGCAGCTGCAAAAGCAGCCTGA
15 CCGCAACTGGCTGTTTGCCTATACCTCCGATCATGGCCAGTATGTTTCGCCAAGATATCTA
CAATCAAGGCACGGTGCAGCCCCGACAGCTATCTCGTGCCGCTAGTGTGTACAGCCCGGA
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20 CGGCAAGGCGGAATATGTTTATCCGCAATGAGTGGCGTAAAAACCAATAAAGACAAATTT
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35 ATGGCGGCAGAATTGGTTGAAACCACGCGCCTTTACGCGCGGACGTCGCGGTTATCCAG
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5 AAAACCGCAGGCGACATCCGCATATTCGAGCAAATCAACCAAGACGAATGGGCCGCGTTC
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15 GAACTCAACAGCAAACCTCGGCAAAACCCCATTTGACCCACCTTCTAAGACTACGCCGTCAA
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25 CTTTCCATTGGCTCTGGTTCGATAGTTTCGATATTTTTTCTTTGCAAACAAAGGACAAAGA
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40 TCACGATTAAATGCTGCATGATTTATCATTCAAATATCCTGCTTTTTGTTTTCTTTCA
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GTAGGGTGTGTGCGGTACATACGCACGCACTTTTTTAAACCACAGCCCTTCCCAACTAA
55 ACCAAAAGGTCGTCTGAACCTATTTTCAGACGACCTTTTGCCACTTTGTAACAAATC
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TCCTTGGAAGCAAACCATGTCTGGTATCTACCTACCCCGCCTATTCCCGCCCCATATCGC

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CGAACGCGGCCTGTTGTATTTTCAGCAGGGCAAGGTTCTCGATGTCCGAAAACTTCCGC
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 10 ACTTCTGTCAATCAATGAAATAAACCCAAACGACCCAAACGATTGGGTTTATCTTTTATC
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 CATTCCATCAAGGCGGAAAACCGCACAAATACTGAAACACTATCGATCGATTTGTAAACA
 AGCCTACTTAAGTAACTTGCAGTCCTTATCATTTCCTTTAAAATAATCCAGCCCGTCACT
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 15 AAAAGGATTTTTATCTTTATCTATGGCTACCGCCTTCAACATGAATTTACTGTCTAAAGC
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 TGGCCACTTGGTAGATGTTTGTAAACCTCCCATTCTGCAGATAAACTTTTCCATAAA
 ATGTGCATTTTCTAACAAGGCTGCCGCACTGCATTATCTTTGCTTTCTAACATAATT
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 20 TTCAACCAGCGTAAACCCCGATTATCAGTCATTACTTTACTTCCAATAAGAACAGATTA
 TTCAACATATTTCTTTGAACAGACTTACTATCCCATTCACAGTATGCATATTTCCCACT
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 25 CGCCGGGCTTATGCCCGGCAGCGCTCCAACCTCTGCTGCGAAGCCGCATTGATGTTTAC
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 TTCGCATGGAAGAATCACACTATCATCGGCGCTGAGTCGTTTCACGGTCCTGTTCCGGAT
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 GCCTTAATCAATATATTCCGTAACTGACTGAATCAGTCAGTAAGCTTTTATCTCTTGAAGT
 TCTTCAAATGATAGAGTCAAGCCTCACGAGCAATTAGTATGGGTTAGCTTCACGCGTTAC
 35 CGCGCTTCCACACCCCACTATCAACGTCCTGGTCTCGAAGCACTCTTAGTGCGGTTAA
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 TCTTCCGAACCTAGCTACCCGGCTATGCAACTGGCGTTACAACCGGTACACCATAGGTTTC
 GTCGACTCCGGTCTCTCGTACTAGGAGCAGCCCCGTCAACTTCCAACGCCCACTGCA
 40 GATAGGGACAACTGTCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 98>:

gnm_98

CTATATTTTACAATTTTTGGTTCATATGAATGTCTGTTCCGTTTCACAGGCAAACCGTGTTT
 45 AAACGCTGTATTACAGCAAATCATCAGATAACGGGCCGGCAGAAAAAATGATTCCGTCTG
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 GCTGTTCTGTGGGGCGTGGTTTTGGTGTGACTCCGTATGTCCGGGGGGCGTATCAGATG
 CCGTTGGCTCAAATGGCAAACTACGGTATTCTGATCAATGCGATTCTGTTCCGCGCTCAAC

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CTGACCGGGGTTTTGGGTGCGTTTATTGCACCGATTGTGCGGCTGGTGATTGCGTTTGTG
CAGATGTTCTGCTGACTGGCTTTCAGACGGCATAAACGCTCCAGAAAACGCGGCAGGACA
5 TATTGCCCTGCCGCGTTTTCTGTAGTGTAACTTATTTTTTTCATCATTATTAGAACCA
GGTTGCATGATAATACCTTTTCATTAACCTGAAACACTGATTAAGAAACTCCAGTCTGTCTA
ATGATGAGGTTTTACATCGCCAAACTTGCCAATCAAATGCTGGATTATTGCCGTCTG
AGATTTGGTCAAATCCAAAGGCGACATTCTTAGACCCTGTGTGTAAATCAGGGGTATTTT
TGGTGAATCGTCAAACGCTTGGATGAAGGCTTGACCAATCAAATACCAGATAAACAAA
10 CTCGCATTAACCACATTTTAAAAAATCAAGTTTTTGAAGTACTGCCACGTATGTAGGTA
GCTTTGACCGATATTTGCATAAAAACTCCTTTGCTGGTGAAAGGAATTATTTGCCAATT
TTAAATATTTCTGGCACCATAAGTACAATGACAAAGACAATCATGCCAATGATTAAT
CAGGATAGCTAGAATGAGTCAATAACGTCAATGCTCCCGCCGCTATCACACCGATATTGA
TGATAATGTCATTGGATGTAAAAATCATGCTGGCTTTGATATGGATTCTTTATTTTGAT
15 TTTTGCTCAGTAGATATAAGCACAGCCAGTTGCAATCAATGCCAAAAATGCCGTGCCAA
TCATCAGTTGATAATTGGGCAGCTGCTCAGCACCGATAAAACGCCTAATCACTTCTATCA
CCCCAAATAACGCCAATATTATCTGCGTTATCCCGCCAAAAATGCCACACGTTTTTAT
ACGCCAGCGTCATACCAATGGCTGATAGCGCAATATATAGACAAAGCTGTCCGCCAGCA
TATCTAGACTATCAGCAATCAGCCCCATAGAATTAGCAAAAAATACCAACCGAACACTCTA
20 TGATAAAAAACACAAAGTTAATCATGAGCACTTGATATAATAATCTTTTTCTAAGTGCT
CATCAGGCTTGTTAAACACTATCTTATCAACAATCACTTCGGTGGAATGATATGACTAT
CAAAATTAAGCGGTTCAAGTACTTGTAATAATCGTTGTATCTTGATTATCGTGATAGACGG
TTAAGCACCGCCAGCAATATCAAACGTAAATTCATAAATATCAGACACATCTTTAAAC
GCATGCGAATGAGCTGTTCTTCGGACGGGCAGTCCATTTTGGTAATGTTAAAAATGGTCT
25 TTTTCATCTATTTAGTTCCCTTGTTTGGATCAGGTTGGCTCAAATAAATCTGTGTTTATAT
TGCTGCTTGGAATTTTTGGATGGTTTGAGTAAATTGATTAGGTTAAAAATTACCTTTGG
AAGTACCGCCACGCATAATAGTTTAGATATGTTTATAATCTCTGGATAAAAAACGTAAT
AAGTGCTTACTGGATAACAAAGTCCAAACCAATAGCAGGCAAAATAAGGCATCCACCCC
CTTCTTCATTAAGGATATATATTGAGAAACAAATCGCAACTAAACAGAAAAAACTTGGGA
30 GATAAAGCCATTTTCATTTCCCTATTCAAGAATCTAGCCAAGATAGGTATTTTGTATTCTA
CAAAAAAGAAAGGCATTTCCAAGGGAACATGTGAGATAAAAACTTTTGTTTATTTTTTA
CTATAGATAGAACCTTGCTTCTCAAGAGAAAGCCATTAAATAATACCGATGACAGCTATTA
ATATATAGAGAATAGTATAAGTATGAATAATCTTCATTAGACAAAAAGAAGAAATGGCAG
ATAAATTACATACGATATATTGGAATATAAAATATTTACGGTCTAAACCTTGTTTCAGTTG
35 CAATTTTTTTAAATTTGCCTTGATATAAAAAATCAAAGGCGTCCATTAACTATCTTTCA
CATTAGAAATTTAAAGCTAAATAATACGACAAACAATGTGAAGTACTATTTCATGGTTTA
TTTTAAAAATAATACTATTCTGAACATTATTTAGATACAGAAATTAACAAATTAGAATA
AACAAAGCTTTTAAATACTTTAATTTTATTGGAAAGCTATAAAAGGAACATAACTTTACA
CACTAGTCACCTCTTTTAAAGAGGCAAAAGGGATTGGGAAGGTGCTCTTGGAGATAAGCA
40 CTGGTATTTTCGGCCAATGGTAAATAGAGTTTACCTCAAATAGGGTAGAACCTCCTTCATC
TGTCAGTTAATAACAGCCACTTTTACAATGCCCTGTCAAATAAAGCGGCACGCCCGATT
TTTCACTCATCGTCATCAAATAACCCATCACCTTTTGGGGCCATTTCGATGCCGCGACCA
CGGTCAGATTCTCAAACGGGGAAAAACCAAAATATCTCCATACCGATTCCGCCGTTGA
TGCCGTCTGAAGCACCGTCCATCAAATTTCCAACCTCTGCAAATCTGCGTTTATCCGTT
45 CGAGGTATTGGGCGGTTTTATTCAAATTTGGCGGAAAAGCTGCCGATGCTTTTCTCTTTT
TGCTGTAAATATTTTACCAGCTTCCGGCGTTGCAAATTCAGGCAGCCCGATTTTGATCA
CGCGCGGCTGCACAGTTTGTGCTGTATCCGCCACCTTGTCCAGCCACGCCCGTATCT
CGGGGCGGACTTCGTCTTTTCAAGCGGTCTTCGCGGTGCGAAATGCCGCACAATGTCCAAAC
TCTCGCCCATAAACGAACCGTCTTCTTTTGCAGGACGGGCACTTGTTTCGACCGATCA
50 TACCGATCGGCGTTGCCTCGTCGCTGTTGCCAGCACGGCTTCTTCAACGTCCGCGCCAA
ACAGCCCGGCAGCATCCGCGCACGCACGCAAAACGGGCAATGGTCGTAAATATACAGTT
TCATCAAAATATTTCTCGTCAACCTGTGCGGTACCGACTACCTTAACACCCCGCGCCGCC
GAAACAAGTTTATCTTCCCGCTATGCACCGTAAATAAATAAGCTGTTACAATAAACTCG
TTTTTATCGGAACGGAAGACCCCATCATGACCGCCATCAGCCCGATTCAAGACACGCAAA
55 GCGCGACTCTGCAAGAATTGCGGAATGGTTTCGACAGCTACTGCGCCGCTCTGCCGGAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 99>:

gnm_99

TCATACATATAATTAATATAGAGCCTCAAGCAGATCAATTCCAAATATATGCTGAGTTTG
5 TAGCTATGTTAAGTTTCATGGATTTCTAACTCTAATCCTTATCTTTCGAGGTGATGATTG
TCTTGGTCCAACCTCAAATGTTCTCATTCTATGAAGGACAACATATCTTACTTGGACCAA
ATAAGTTCCCTTAATCTTTAAACAAAATCAATTGGCGTTAGTAAATTAATTCATGTCCTAT
ACATATTACTCTAGGTCTAAGCTTACTTCAACTGACATGGGATCTCATAATCACTGGTTT
ACTTTAGTCAAGTGGTAAATGGGAAAGAATCTTGGCAAATTGTTGAAAGGGAAGTGGCAC
10 ACaAGAGAAAGTAAGAAACCGATAGGAGTTATTATTCCTTCATGATCAGAAGTGAGATTG
AGAGAATCTCACAAAGACAATCATATCTTGTGTATAGTGACATGTTTCAAGAATAGGGT
TTTTAATTGTTGACACACACACGATCCAATCCATCAAACCCAGCCTGATCTCTTTTCGT
GGCTGCGAAAAATACCGTCAATCAAGAGAAGAATAAGCATATCTCTCTGCTTATCCCCA
CCACTTTGGGCTATCTCACACCCACACCCCTTCATCTGAGCATGATTCTTGAACAAAATAA
15 TATTCTTCGAGAGAAAAAGTAAAAGCTTGGTCCACATAAATTGTAAGATTCTAATCCGAT
CATGCATAAAAAAGTTGCAAATACATATATAAACATGTGCGGATGTACCATATTCTTTA
GCATCTGCAACAAAGAAACAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 100>:

20 **gnm_100**

CGACCCGAGTCTTCGAGTAGGACCCACCTCTGAATCTGTGACAGACGCCGGTTTCGTTCT
CTCTCTCTCCTTTTTTCTCTCTTTGCTTTTCCAAAAATAAAGTTGTCTTTTTTTATT
TATAATAAAATGATTGTTGTTTCACAGTGTGTTGTTTGTGTTTGGGGTAAAAAGAAAAT
CATAAGGATGCTTTCATATTTGTTTTGTTTGGTTGAGTGATTGCTGAAGCCAACTTAA
25 AAGAGAGAGAAGAGAAGAGTGACTCTGTGTGTGTGCAAGAAAGTCTTCTCTTTCACAC
CTTTCGTTTTCTCGAACCTCTCCTTTAAAGATGGTGGAGGAATCTTGGGTTTGACAACTC
ATTAACACTGACCCTCTTTTTAGCTCTACAAGCATCCAAGGAACCCCTCTTACTTTTCCC
TCTTCTTCATTCCCTCTCTCTCTATATCTCCCAATTCCTTCTTTTTTTAACCTTGATC
TTCTTCTTATAAGAGACTCAGA

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 101>:

gnm_101

TAGCTTGAGAAAAGACTCAAGTTTGTCTGCTCCCACGCCCAATAAACTCGCATAAAAGAA
TTATTCTTGTTGTATGACCTTCTTCCAAAACGGAACGCCATCCCTGCATGTAATATATAC
35 ATGACACAATATTAATATTCTTTTACTCTGTAGTTTGAATGTGGTATTTTCGTTTCTTTT
CTCTTTTAGTTTCAGAAGGCTTGAACCGCAACCCACTTCACGGCTCATTAAGCTCTCTA
TCATACAGAAACCATATTGTAACAGATGTACTGGAAAAGAAAGTGAACATGATAATGACA
GCGAGACGTATCATTTACTCTAGAGGATTGTGAAAAGAAAAAATTACCTCTGAGAGGCA
CTCCAAGAGCATTTTGCAGCATCTTGATGAAGTGGAACTCCAAACCGGTGAGCTAG
40 AAAGAGAAGATGAATCAACTCGGTGCCAAAATTACAGTGTCTTCCATGTTCAACTCTCC
ACTATACATGAAATTCATCATAGCCTTGAATGCTTCTGGTGATACATCGGTAGGTAAAT
CGTTGATGAATGGCTTTCATCTATCCCATTTGTAAACATCTGGATGTTTCATAGAGAATAA
ATAAGAAAATTGAGAATCAATATATTCTGTACATCAGAACTGCGACACTAAAAGAGATT
CTC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 102>:

gnm_102

5 TTTGCATT CAGGAGTAGCGGTTGACAAATTCAGCAAATGAGAATATCCAGAGATTGGTG
TTCTCTTAAGTGTGATTACTATTGTTTATATCATTACTACAGCTCTCAGACCCAAGTGT
GAACTGATGCTGTTGCTGTCTCCTCTGCTCAAAATATTGTTTTTGCCTTCAGGTGCAACA
AAGATGAAATTAAGGTGTAAGCACAAATGGGAAGCATATGCTGACAAACATCTCATAAAG
AGAACAAGAAGGAGCTTACACACCTCTTCTTCACTGACGTGTGTGACTGATTACCCCAA
10 AGGTTCCAGAAAACAATAACAAGTCAAAATGAAAACAAATTATAAGAAAAATAAGCTAT
TATCCCAACACCAAGAGGTTTTAGCTTCACCCCATTTATAACGGACCTCTGAATTTGAAA
TATCACTAAAAGGAAAAAGTCACTCACAGCGGCTACTTCCGCCTCGATCCTCCCATCCA
TTGCAGCATTCGTAGAAATTCGGTCTTAGAGTTTTCAAATTGTACACTGCACAAAGA
TTTCGAAATTAATTTTCGACGCCACCACGAACAATTCACCCAACGATTCCATAACTAG
GTTGCGATTCACTATCAATTAGACACTGAGACTGAAAATTTGAATCCTAATCCTAAATT
15 TCCGATCAGATCTAGAAGAATCTAGGTAATTTCTACGAAATCCCTCAAAAAACATACA
GATTTCGAGAGAGGAGAAAGAGATATATTTAGAAAATTCGAGAAGCTTCGACAGTATCTGA
ATCGCGTCCCCAAAACGGAGCTCGGAGCATAGAAACGATTACGAGAAGTTGATAATTGCT
GCTACCGAATGATGAATCCGATGATCTTTGATCAAATTTGCAGCAGGGGAAATCAAAGAC
AACGACACGAACGGTCTTTCAAATTTGAAAATTTCTTGTAAGCA

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 103>:

GNMCG08F gnm_103

25 CCCAGTTTGCTTTATTTTGTAAATCGCTTGTGCTTGTGTGCGACACCTCAACTTGAGAGT
AGTATGTTATTGAGATGACGCAAAATTTATACATTCTTATGTTGTACCTGTTATACTTTC
ACCAGGCTGAAGAATTAAGAAAATGCCTTTGGGAAAAAAATGTACCAGCAAAGGGTATAT
GTTGGGAATGCGGTATTGGCATCCATTCACTGAGGAAGCCATTGAACAGGTATGTTGAAT
ATGGTGTTTGGTAGTATCTTGATTTAAGGCTAAAACACAAAGTTTTCTTTTCGTATTTGC
ATCTTCAAATATTTGCTTACATTTAAAGTAAACCACTACATTTTGTGTTTTATCAAACA
GCATTTGCAAAATAATGATTGAAGTATGTGTGAACACCTGGAGTTTGCATTTGTGAGTC
30 TTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 104>:

GNMCG09F gnm_104

35 AGGTCGGTATCCGTTTCAGAACCTGGTATTTAAGTGGCAAGACCCCAAGCCCAATTGTAA
TGTTCAGTATGTTGGTCTGAGCAGCTGGGATAAACATGTTGGATATAGAAACGTGAGTGT
GTTTCCTGTGACACATAATCATATCTTGCTGTGGAAGCAAGTGGATTGCCGTGAAGTTAG
AGGAGATGAGTCTGGTGACGAGAAAGTTGTGGAGGAAGGGACTGGTTATGATTATGAACA
ATGGGGACTTGGGAATTTCTTGAGAGTTGGCAATTATCTGACACAGTCTTCCTTGTGG
TGAAGAGGAAATGGATGTCCCTGCTCACAAGGTTATATTACAAGCATCAGGTAATTTCC
40 TTTGAGATCATCTGATGGGATGTCACTCAACTTCGTGGAGTGTCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 105>:

GNMCG10TRB gnm_105

GAACGACCATTATCTGGAGAATTTTCATGCAGCTTAAACGTGTGGCAGAAGCCAACTGCC
AACCCCATGGGGCGATTTTCCTGATGGTGGGATTTGAAGAAGTGGCAACCGGACACGATCA
TGTGCGGCTAGTCTATGGCGATATTTCCGGGCATACCCCGGTACTTGCGCGCGTCCATT
5 CGAATGTCTGACCGGTGACGCCCTGTTTTCAGCTTGCCTGCGATTGTGGCTTCCAGCTCGA
AGCGGCATTGACGCAAATTTGCCGAGGAAGGCCGTGGTATTTTGGCTGTATCACCGTCAGGA
AGGTCGTAACATTGGTCTGCTGAATAAAATCCGCGCTTACGCACTGCAGGATCAAGGTTA
CGATACCGTAGAGGCTAACCACCAGTTAGGCTTCGCCGCTGATGAGCGCGACTTCACTCT
TTGCGCTGATATGTTCAAACCTCTTGGCGTCAATGAAGTCCGCTTGTAAACCAATAACCC
10 GAAAAAAGTCGAAATTTCTGACCGAAGCAGGGATTAATATTGTTGAACGCGTACCATTGAT
TGTAGGTCGTAACCCCAATAACGAACATTATCTCGATACCAAAGCCGAGAAAATGGGCCA
TTTGCTGAACAAATAACCCCTCTTGCAATTGTGTAATTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 106>:

15 **gnm_106**

TCATATTCTTCAATTTCTTGCTCCTCAATGACAACGATGGTAGGCTTTTACACTAGGAGAG
GGACGAAGCAAGTCCTGAGCTTCTTCCCAAGTGAGTCTCAGCTCCATAGATTCTTCACTA
TGCAAAAGAAGTCTCTTATTTTTTGCACCAATGGTTCGAGTTCTTCTTCTCTTTAACT
CGTGTAGGATCATCACCTATCCTGCCCCGTTAGTCTCACTGTTCAAATTCTCAGGCATA
20 CCATTCAACTCTTTTCGGTATTAGTGAAATACACGAGGAACCATTTATGGAGGGTGGGTTT
TCTGTTACACCAGACGATGATGTGCTCCTCAGTTGATGTTCCGTTGGTGAGCCACAAACC
TATTTATAAATATTGTAACCGGATAAGAATGGAGCTAAGCAGAAAATAAAAACAGCACA
TTCCTACAGAAACAGTTATAGAAACCCCAACCTGCATGTCTCCAGCATTAGCTGCCTT
CCTGGAACCCATGATTAGTTTCCGCCAGGATCAACCCGACTGAAAGTTACTGTAGAGGT
25 GAAAAACACAGAAAACCAACAATAGTTTTAGAAAATGGTTCATGAAAATTTGATGTTAAA
ACCAGCAAATGCTTGAAGCTTTAGCTAAGACATGAACATATTTAAAAGTACCTGTATCAC
CAGCCTGTAGCATCATGGACTGTATGCATGGAGTGACACCTTCTAAACATACATTCTAC
TATTGTTATTGGGCCAATATCTGAACTGGAACGTCCACTCCCTACCCCTCACATCTTGA
TTTTCAAAGGAATGCTTCGGATTGACTAATCGGAGGAAAATATGCCT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 107>:

GNMCG12F gnm_107

CCCACTTAAATTGAACTAATTATGTGTTTGCAAAAACTTAAATACCACATGCAAAAAGT
TTAGTTTTATTTTAACTTTTAAGCAATTATGAGCTACTTCTCAACTGTCCATTTAAAT
35 GACATGTTATATGTTCTTTTTTGTGCTCATAGTTATGTTATAATTGTTTTTTTATTAT
TATTATGAGATTGTATTTAAAGCTCAAAGAGCTAATGCTATAGTTTTTTTTTTCTTTT
TTGTCATCATTTTAAACGAGAAGTGTAGCCAATGCTATAGTTAAATATTATATTTAATA
CTACACAAAAATCAAGGTATTCAATTCAAAGAAAACCAATGGACAATATATGCCA
CATTTGCACCTGAGAAATGAAATACATCCATGTTTTCAAATTTACATTTAGCCCCGTTAT
40 AATATTAATTACATATAGGACCCAATTTTGACGTAAGGTGAATCTCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 108>:

gnm_108

GTTGTCTGGCATTACAAATTAATGGTTTAGCTGTCAAATTCAAAAACATGATTTTATCC
45 ACAATGAATCTAGTAACAATCTACAACAACAACAAAAGAATCTAGTACTAAAATGGGG

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TCAAAATCTATTGTTAAACTTAATCCTCTTATTTGAACTTCATCTTATCTTAATCCTC
TTATTGCTCTTTTAGTTGAAACAACTCTCCCACTTTTGGAAATTTATAAATAAATTTTGCA
AGCTTCACATGGAGTATAGTGTGATAACCATATAAAGTCACATGCGGCTAGACTTGAGAG
TCGACACATATGTTTATGTGCAATGTATTGGTTGGGCTTCTTAATTATGAAACAAATGGG
5 CTTTGCAATAACAAGTTAAGTTTCTCGATCAAGCTAAGCAATATCTCAGCTCGTGTGTG
ATTGTTTCTTTTCTTGGTCAATTCATCAAGCTATATTTCTTCTAGTCACGGTTTCGTAC
CGTTGCCTCTATCCGAATCCATGCAACCTCCCAACCATATATAACAGATAAGAGATTTG
CACAAATGACAGCGAAATGTGCTAAACTCGTCTGGCGTTTCCTAAGAAGACGACATTATT
GTGTGAATTGGAAGAAGCGTGATTAGGGAACTTGACGTGGACTTTTTGGGCTATTGACA
10 AATAATAACCAACTTTGGCCCAAACGTTCGTATTAATTTGTGGTTCATTTTGTCTTCTA
GTTGCATCTTTTCTTAGCCTTTGTCCCTCGGTTTAGCCGCTGTGAGGTCGGGACCGTTG
TTAATTATTGTAACACCGCATTAATTACATAATAATAAACTCGCAAAATAAAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 109>:

15 **gnm_109**

TGAACACGTAAGTCTACAAGTTCTAATTTAAATCACAGTTTTTCTTTTTATATTTTAGA
AATTTTTACGGACGGAGATGGCTGTGGAATGTGGATGTACATAATCTATAATTTATTTT
ACAGTTCTCCAATAACATTAGGTGAAATTTTTCCCGAAATTTTCGACTTCGTGAAAT
TGGACAAAAAAGTCCATAAACCGTTAATTTCTGTGTGTGATATAGATTTGTGGGTCGTA
20 AATAATACTAGCAAAATCCAACAAACTTTTGTCTTCTGTGCTTTTTTCTCTTTAGATT
TTTTTGTGTGTGTCTAATTTTACATATGCATGCCCTACAGATAATTCCTATTTATGCATC
TACAGAACTCAATTATCGTCTCAGTGATAATAAATGCAGTAACTGTAAGAAACGGACGTA
TCAATTTCTTTTCTGACAGATTGAAAGTTGTCTTAGAGAAATCGGTACTTATATAATGA
GCATATCATTTTCTCAGCGTGAAATCAGAATGAACCATTTATGATTTTACCCACTATATA
25 TTAAGAGTAGGTTAGGAGAAAATTGATCCTACGTGGTACGTATTAGCTAAGACCAATT
CAAAATATGAAATTCCTCTAATTTATCATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 110>:

gnm_110

GGATGTACGATTAGAGAGAAGTAGGACCATGGAAGTTAGGGAAGTAGGAACATGTCATAG
ATAAGGCCCAACCAATATGTGGTCGTGCTTCATCTTAGAACCTCGTGGTGTGTTGGCTT
AGCTACGTCGTCAAATCATCCATCAGAATCCAGTTTCAGTTTTGTCTTCCAATCATGTTT
ATACACGTGTTCCATATCGTCTTTAAAGATATCTCACGTCTCTTACATTGCCTAGTTGCC
TAATAATTTTCTGCCGGTGCCTAGTTTTATAAGACTATTTGTAGTTTGAATGTGAAGA
35 TTCACAAAATGGGTCTTCATAAAAAGTTAAAAACCTTACCAGTTTTCGTGATTTTTCTA
TTTTGATGTAAGTTTCTGTGAATCGATGTGATAATATGTCATGTGAGTCTTTTTTCTCCG
GCTGACATAGTAACATGTGATTTGATAAGAAAATTATTTTAGTATCGTGATAAATTTGT
GAGGTGTTTAACTTTTTGTTTAAATCTTAATGCAAAAACCTTCCAAACCTAGATTTCTTT
TTTGTAAATTGGTTTTGCATCAAAACACAATATCCGAATGTAAATATTGAATTAGCTAAA
40 CAGTAGATGTCCACTAGATCATGAGTAGGCGATATACATATAAATTTCAATTAATTCAGAG
AGAATAATAATTAATTTTGTAAAAAGGTGCTAAGGCAAGGTCTTAATACAAGTCTAAAT
TATTGAGTGAATAATTCATGTTAGGAAATAGGTTGGACCATAAGAGGATGGTGCTATCA
ATCTATTACAAAAGTACAAATACCTGAGCTGTACTGCCGG

45 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 111>:

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GNMCG15F gnm_111

CCCTGCTCTTCCGTTCCATGTTTCTGCACTTTTTGTCCATCCCCATTCCCACATTGTCAC
CGGTGCTGGTAACTCCCTTCTCTGTGAATCATACGTTGCTAATAATTCTTCTACACTCCC
GAGCGGAACCTAACGACTGCCCAACCAGAAAAGAAAAGAATTAGAAGTGAAGATAACAGAT
5 TCTTTTGTGGAGCTTAACTAGATGTAAGATGAAAAGTGTGTTACCTGTGAGCTTCA
AGGTTTGAGACAGCCATAGCACCAACGTATGGAAGACTTCCACAACAGCATCTGCCAAG
TCAGATATAAACATAGGTTCTGTTCCCTAGAGCAGGTACTCGCCCCCAGTTTTTGATACCA
GACTTCAAAGCCAACTCTTTATACTCAACATCTATCTCCTCCAGAGTTTCAATGTGCTCG
10 CATCACAACCTGTTAAATAGAAACAAACGTGAGTTTCAAATAACCAAGAGAGAGAGAAT
TTGTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 112>:

gnm_112

TTAAAAAGGGTAAGTGGATCCTGACCCTGTATATGCTGAATGAACTTTGTCAATTTTCTGT
15 TAAATTAATTTTCGCTGATGCCATCTATGCTTTGATGATGACGCAGTTAGAAAACAGCAAC
CTAAGCAAAGAAATCCAGTATTCAATCGTCTTGTAAAGTTCTTAACATCTTCTATCGATT
TGGGGATTATTTAATTTGTCAATTTCAAGACTGATTTTCTCTCCAAGCCCTCACTTATTTT
GTCTTGTGTACAGTTGAAGGAGGCTGCTAGCTTCCTAACATCCGGATTGATATCCCCAGG
AAATGAACCGATGTATGAATTACATAGTCATGTATCTTAGGATTGTAAACATCTCCAGGT
20 TTATATTTCCAGACTTCTCAATTATTAAGCTTTTCACCTCTAGTTCAAGATTCCAACAT
CGGAGATCGAGTTTCAAGGAGCTTCAGTACATACGTGATGGGGACAGCAATGGGGTGCTG
CACTTTGTGGGTACATCTTATGGTAGTCATCAGTGGGTCAACCCCGTTCTCGCAAAGGTT
AACCTCACTTTTATCTTACTTTCTTTATTCATATTGTTGGAATCCAATTACCATGACAA
GGAATTCTGTGGAGAAAAATATTTCTTATTTGAGTTCTTTATGTTTACAGAAAAATCA
25 ACATTACATCGAGTAGTCCCACATCCAGATTCACTGATCCAAAGGCTTTGGCTTCAAAG
CCTATGCGGTATGGTCCACCCAAGTTCGCTCGGATTATATGACTAGAAATTTGGCTTGAAC
TACAAAATTGACGAAGCATAAAATTAATTGAAGTGAACCTTCTTCTCTTAGATACAGT
ATTTAACCATAGATTTTCAATTTTGGCACCAAGGTACTTCTTTGCAGGGCCTAGGAT
GGAAGACGGCCATATATCATCTGTTGGTGGTGGACTTAGGCGAAGAACATCAGGTCTC
30 CTCCATAACTTCTCTTTCTACATACTCTGTTCTCATAAAGACACAAACGGTCTAAATGCT
CCATATGTAACCCATACTCGCAGAAATAAGAGAAAATGTATTTGAGTAAACAACATTTA
CTTTAAGTTCTGAAAATAATATAACACGGTGAGGATTCTGTTGTCAGCTTATGTGCAAC
TATTACACCTTCAGAC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 113>:

gnm_113

ACATTACCAATGGAAGCTAATGTTGGTTTTTAAATACTCGAACCATATTATCTAGAGT
CTTCTAGACTATTCTATCACTTAACAAACATGCAGTTTGATTACGAGTTTTTCTCGTTAC
GGATTTAGTGATGAGCTAGTAAATGATTATTGATTGACAAAACCTATAATATGGTTAATG
40 TTTCCATCTACCATTTACGAAAAAGGTAACAAATTTTGTCACTAATCTTTCGATAAAC
ACAAGTATGCAATTTTATTTTATTTTGTATTCTCTACATATGCTAAGAATCTTAATT
AAAACAATAAGACCTTACACTAGTTTTGATTATTTAGAATACTTATCCACATCCCTTACT
TTCAGTACAAATGTCATCTTCATTCTTCCCTAGACATTATTTAAGAAATATTTACGAAAT
TTTACGAAATCAAATTAATAATTGTCATTGAGACATTTAAAAGTTTATCACTAACTAAT
45 TCCCTAATTAGGGATAAATTTTCATTTCTTATGACATACAAACAGAAACGTGAAACACGT
AGGCCCTCTTTGTTAACCTCCTCACATTAATAATTTGTCGTAAACATCCTCACATTAACA
CTTCGTGAATGTTTAGTTCTAAAGAGAAGAAAACTTTAAATATGTTTAGCATATATTTA
GTTAACTTTGTTCTATGAAATTTAAAGTAATTCCTTTATGTCTTATGACATTTAAAGTTT
ATCACTAAATTATAAGCGATTGATCTAC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 114>:

gnm_114

5 TCATTGTGACTAGCCAAGTAGCCATGCTGGACACTACCAAAGTGGTCTGAGCCAAGACTT
TCTACCTTTTGTTCCTAGTCTAGACAAAACTTTGCAAATAAAGTATATTAGTAGGC
TGAAATTTTCCTTGTTTCATTTATTTTCATCTACACAACTAAAAAATAAAAAA
ATAAAAATAAAATAAAAAATTAGGAGGTTTAGTAAATAAACGGACAATGAAAAAAC
ACAGAAGAGAATGATTTATATATGTTAATAGTACTAAGGAACTTTGGATCCAACAGGAAA
ACGTAAACTGTGGAACACCACGATCAAGTACTAAGGGGTTAATCCTTTTACTCCTCAA
10 GCGCACCATTGAACACTTTGATGGAACAATAAGCAACTCAAGAGATTAGAAGATGGGAAA
GTTTATCACTATATCAATGTATATTTGTTACCAACTCACATAGTTAAGCAATCCGAAGA
TTGTGCGACGGAAGTGATGGGCCACACGAAGGATCAATGAACACTTTGCATGAGACGATG
GCACAATCTCACTGTTTCGGAATATCAGCATGATCATCTACCATCTTTAAATCTAGGATT
TGCTTAAGTGATTTTTTCTTTCTTAACTTCGCCAAATGGATCTATAGATCTAAGGTT
15 TCTTCTTCTTCTCCTCCAAGGATTATATGTGGGTTTTAGTACTTCTCAAGTTATCTCGAATC
TGGTTAGTTTTACTAACTTACTATTTTACTAGCAAGGAAAAGTCCAATAATACGACTTGT
GTAGCCAAAAAACAACACGACTTGTGTAATCTGGAAATGACGATAATACCCTCGTAA
AACCTAAAACTGTGAGGAGAGAAGGTTGCCCTTTTGTCCAGCAAGAATAAATCACG
TCGGCCTTCTTGGCCTTCTCCTTTGTCCAGATTTCTTCTCAACCTCTTCTCTTGC
20 TTACCCGCCAAATTCCTTATCTTTGAAATTGCCTCATCCCTTTCGCGTTTGGTGATTCTG
AAGATTCCGCTTCATATCCTTTTGATCTGTAAGTTTCGATTTCCGATCTCCTCGTTTGT
TTCTGTCAAATTTGGTTAGAAATTGTTCCGAGCATTGAATTTTCTCGTACATGATCTCT
GTTTTAATCTGTGTTTGTGTTGATCAAGTTGTGAAATTCGAATTGGGTTTTGGTGGCTC
AAGGGTGTGTTGTTGCTTAGCTAAATCCCCAACAGAGAGCTTTCAATTCAGAGATGGTG
25 GTAGTTGTAACCTTAGGCTAAACATTAATCTCTGCTCTTAAGTGTGTTGGTTTGGAT
TTTTGTTAGAAACAATGATTGGAGCATAAGTTTTTATAGAAGAATGCTTCCAAGTTAGTT
GCTTTTGTGCTATATCTTGAGGGCTTATGGTTATACAACCTATAGCTCTTTATTTGTTT
TTTGTCTCACTTTTCTGTCAAGGCTTATGTTAGTGTTCATACTTTGTTTCTTCTTTA
CAGGCTCTATAAAGACACTACTGGTTGAATTAGAATCTGTAAGAGATATTAGTGTGTTT
30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 115>:

gnm_115

AGCGATGAAGGCACTACTCTTTTGGCCATCTAATCTCTAAATAGGCCTAGTCGAGGATA
AACCTTTGGTTCTTTTCGTTAGTTAATAGGCCTAGGATTTGTCTTGTAATAATTAAATGT
35 TGTATAATAATGTATACATATATATATATATGTTCTTTATAGTTTCACGCTGAGACATG
AACATTAAGTGAACAACCTTTAAACCTTGAATATAATTGAGCTTGTTATACGTGTCAGTT
TCTTATTACATCAACTGAATTTATTTATCACTGAGACATTTATTGACTCCAGTCATAAAT
AGTGCGTATATGTATAATTGTGTAAGGATGTGTAAGTGTATGTTGAGAAACAAAAA
AGGTAATATGTGTAGAATGCTAAAAATGAAACAAAGTACAAAAATCAGAACTTTTCATT
40 GGTGTGGCATAGTGGTTACTGGCTCGGATCTACTAGGACGAGTACGATTTCCGCCCCAGT
ACAGATCTAATATCACCGACCAAATTAACAGATTGTTGGAGTTTGTCCAATTTTCAAGA
AGTAGATTCAAACAATACTTTTCAAGAACGGAACAAAAGATCTAAACGATATTGGAAAAGT
CTACTGTTGTAACCTTTCCTCACAGGACCACATCCCCATCTCCGTCACTAGAGAAGAAATCC
AAAATAATAAAAAATAAACTGAGAATAATTGATATGTCAAATAAATTAGAAGTAGCGAT
45 AACTGTCAGTGAATAGTAGATTAACTATGTTAGAATTTGGATGATTCTACATAAAACCC
CAAAGACTAGTAAATTAGTCATGACGCATTAGTGGAGAACATTTTCTACATTTAGGAAA
GATCGAAATACCACCATTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 116>:

-635-

GNMCG19F gnm_116

CTGTTATCGTTGCGGGTATTTCTCAATCTCTCTAATTTCTATTTCTAAACTCCAAATTC
GTTTGATTTTTGACTAAAGTCTCGATCTTTTCGTGACCCCTCTTCTTGATTCTCTGTTTAG
CTCTTAGTTTGTTCATGTTCTGTTTTTTGACTACGTATATGGTTTCTTAGTGCGAATCT
5 TGACTCTTTTAATCTATAAAATAGGGAAAAATATGTGACTTTGGTACATAAAAGGGAAAA
AATTGAGACTTTGGTTGTAATGATTTTGTATAGATCTGCGTATGAGAGTTCTCTATTCT
GTGAACAATTTATAAGGACCAATCTGGTTGGAGGGAATGCTATTTGTGTAGCAAGGTGC
GTTTTTTGAAACTGTGTGAATATGTTGTTTTTCTATATATAGAGTTTAGTGGTGATGT
TTTGTGTGCTGATTGAGAATCTGTGAAGACAGAGACTACATTGTGG

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 117>:

GNMCG20F gnm_117

ATCCCCATCTTCATCAGCTCACTTCTCAACGCTTCGCTCTTCTCCGCTAACGTATATCA
GCTTGAGTTGGCTACGTGTCTTTAAAGCTTCAGGGAGAACAACTACTGCTCTTTCTTCT
15 TGTCTGCGACTCCACTTCTTAGCTTTAACTGATCGTAGTAAAGAGCGTGAAGAACAATG
TTTACTGGTAATCTCTTGTCTGTGAAGCGTGAAGACGTGCGTCGTAAGAAAGCTTTAAG
GGATCCATTGAGCTACACACTTTTTCCCTTTTCGATCTCGTCTAGATTCCGGATGAGCTTTC
AAGAAGATGTCTATAGCTCTGTAGAGATCGTCTGCTGATTTTCTAGCGGATTTCCGGGACA
AGATTCGCAATCGCGTTGAATTTGGAGATTGTTAGGTCTCCGTAAGTAGCGATCTCCGCT
20 AAGTAAGAATCAACTGTTTTAGCTACTCTTTGTAGTGAAACAGAGCAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 118>:

gnm_118

TTTTTTTTTTTTGGGTGAATTTTTTTTTTTGTTTCAATTTAATTTATCGATGTGAAAAAT
25 TAAACTTTTATGGGTGAGATAGAGAGAGAAAGAGGGAGAGAGCATTCAAGTGAACGAA
CGCATAAAATGCATGCACGACACTTGAAGACACACACAAAACCTCGAAAAGTAAGAAAACT
CGCAGAGATTTAGAACAGACACAAAAGTGAAGACTTTGGTTTTTTTTTTGACTTTGTAAAG
ATATGTTTTTTTTGGTATATAATATATATAGAAATGAAATTTAGGGTTGGTAGGAATCATA
TATTTTGGAAAAAAATAGTATGGTGACGTAATTTAATATTTGGTTATATGTATTCAAC
30 TAATTTATAGGTATTTTCTTTCTACAGTTGGGGTATTATTTATATAAGGAAATATTGAT
TATTTTCATCAAGAAAAGAAAGAATTATTCAATAGAAACATATATGTTTCTTTTGGCAAT
CATAAATATATAGAGTGCATGCATGACACTAACACACACATGCACAAAAGACTTTGAGGT
TCTTCTTTTCTCTTTGACTTTCTTGGTTTGTATTGTCAATTACTCTAAGAAATCATT
TTAATTTAAGTTTGTAAAAGTTATAAAAATTATCCTAAGAAAAGAAAATAATAGTACATA
35 AATTCTACTTATCTAATTAAGATTATAATAGAAATTTGCGATCGCGTACATGTATATGC
TATATACTCTACCTGTCGTCATTCTCTGTATATGTATTCTAACCAAATTTGAGTTCCGAA
TACCCTAAAACCTAGAGTGGATTGAGACCGATAGATAAGTAAAAATTGACGATTCATATC
AAACATGTAGTCTTATGGTAGAATATATATTCCAAATAAGATACCAAATTTATAGAGAA
CTTGCAACGAAATGGGAAGAATTGGTGGAATATAAACTAAAAATTCATTCTTGCTTAAA
40 TTGAATTTTTTTTCTACACtGAAGAAAACAAAATTAGTt tAtACCATCGACAAAAGA
AATATGCAAAAAATCAACACAATATATTTTGTAGGATTTGTTTATTTTTGTTAATACTT
TTGAAGGATTTGTAGTTAATTGAATATATATATATATATAATATATTATGTTTTTTTT
TTTGCCATTTTACTACATTTAACCATACCTTGCTATTTATGGAGTCCAATAGTCCATGC
GCATGATAACATACAGTATAAGTGTTACACGATTTTATATATGCATGTGATTTTCTGT
45 CAAATAACACGTTACTACCAAGAATATATCATCTATTTGTTCTAACTTTTACTCATGCA
TGCTCTATTCACCTTCGTATTTCCCATTAATCTTTAATCTTTTCTATCTAATTAGTTCAA
ATTTAAATCTAACTAAAATGACACCATATCTTTTGGAAATCGCTCTTTTGGGTGGAATC
TTCTATATTATCAACGAGCTACTATTAAGTTACTACGTTTTTTTCACTCCCTTTTTTGACC
TTATATATAGCTAGGCTTGTAACACCTATCGAGTAATTGACTACTGTTGGAACGAGTAAA

-636-

AAACTTATAAGTTTAACTCAGTGTAATGTCGCCGTCTGGGTAAAAGAGTGGTAATC
TATGTATTAACTAAATTCATTATACACTTATGGAATTTCTTGTTGACAGCAAAATAT
ATAGACATAATCCATTTT

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 119>:

gnm_119

TTGTCCAACCTACTACTACTTATGTGAAAAATACATACATATGCCCAAATTTGTTATC
AAACCAAAATGTTCTGGAAATAGCCCATTTGGACATCTATTTATAAAATTGCATACACTTT
10 AGCTAAAAAAGTACTTCAGTTTGTGTTAGAAATATCAAATTCAGAATTGTTGACACAATA
AAGAATTGTGTGCAGAATATCAAAGAAATTTGAAATAATTCAGAATTGTGTACACAATA
TCAAAAATCCATTTGCAAAATGCTTTGTACACTTGTGTTTGGCTTGTATTTTATTTT
AAAAGTATGATATGTAATAAATAGGAAGTGTAGGATTATCTTTTCTGTCTAATAA
AAAATAAAAAAATCATATGCATTTATGAAGATAATTAACTTTTAAATACTTTTAAAT
ATTTACATACATATTATCCATTTCTCATTCCAAAAAAGAGTTTAATTCTCAGTTTCAGAA
15 TAAATGTGGGCCTTATACAGATTTAGTTGGCCCATTAATGTACAGGTGACAATAATCCA
CCAACCTCGTTTCTCCTGACACAAAAATATCTCATCATGTCTTCTTCTCGTATTCTGTG
CTCTCATTTCTTTTTTGAATCTCTTTCCAAAAAGGATTAGATCTGACTCACTATTACG
TGTCACGCACAGTTCATTAGGTACGCTCGGAAATTTTATCCACACATCTAAATATCTGA
TTTATGATCAATCACCCATTTTATTTTCTTTTGTAGCTTCTCAAATCTTTTGTCTCT
20 TAATCGATTTAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 120>:

GNMCG24R gnm_120

CAGTCAGGTTACTAATAAACTTTTCATTATCCCTTCTTTGTTATATTACTAATAGACCAAA
25 AACATTTAGATACTCAGTGCCGATGTAGAGCCTAAGAAGAAGCTAAAGCACATTGTCAT
GGCGGCTACAAGTGAGTCTAAAAACAAGTGTCTCTTTAATGATTCTTCCCAAAATGA
TTGTTTGTCTTGGTTAATATATAGGGAACAGAGGTTTGAGAGGGTGACTAAAAATCTA
AAAGTGGCAAGAGTGTTTAACACATTGGTAGAGGAAATGAAAGCAATGGGGATCGCATCT
30 GTTGATGACTCAGAGTGTACAGAAGTTATGGCTCCAGTTGCACACAAGGACCGAAGCCCG
GTTCTACTTCTTATGGGAGGTGGTATGGGTGCAGGAAAGAGCACTGTGCTTAAAGACATT
CTCAAAGAGTAAGTAAAGTATCAACATATCTGTCATTAATCAGTGTCTTATGCATTGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 121>:

GNMCG25R gnm_121

ATATAAGAGTTAATCTTATAAATAGTTTCTGAACTTAATATACTATAACAATGTAAAA
35 GTCGTCGCTTTGTTATTTGAAGTGAAAATTAAGCAATGTTATGATATTTTACTAATTAA
CTCAATATGAAAAACAAAAATCCTCTTAACTAAAACAGAAACATAAAAGACGACTTAGTT
TTTGCTTTAGATCTAGACTCATAACTCAAAAAACAATTTTCATTATAAACTTTTGTAGATC
TTACAATTTTAAATAAAATGTACATTAATGTTGAAAAGCAAAATCTTAAATTAGTGTAT
40 ACTACTACTTTTTTTTATCACCCTGATAGATCATTAGATCCTTAACCTCAATCCCTAGA
GCCTGCTTATTGCCTTTAAGCATTGTGCAATCACTACCAACACACTCAAACTAAATAA
ATATAATTTATACTTATCAAATAAAATAAATA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 122>:

-637-

gnm_122

CCTCGAATTTGTTTTATTTTTTCATTAATCAGACCAGACACAGTTGGGATAAAATGAAAG
GGGCTTGAGGAGTGAGGACGGAGAACCACACGTGTCCACACAGTTGTGATAATTTTTTTA
TTCAACAATAAAATTGCAAGAGACGAGTTTGGTAAGTAAATCCGGTTGAACCGGTCCGAC
5 CGGTATTGACCGAAACATACAATCTTTTATAGTCTTCACACATTGTTCCCAACTTTAAAC
TTAGAAACCTTAGATGTTGTATTCAATAATTGTCAAACCACAAGTACTGACAGATACAGA
TTTTAAACATTTTTGTTTGGATCAATTTAACTAGATCTGTTTCATTACCTGAAAACAAGT
CTCTACAGAGTTCTCCATAAAATCTTGAGACAAGTTCAATGAAGACAGGACTCTTAAGAT
TCTTCCAACAGAAGAGAAGTTCTCTATGTCCATTAAGTCATCTATTTTCCCTTCTTCAA
10 CAATCAGATGAATCAGATAGTTTTCAAGCTTCTACAAGCATCTCCACAGCATTGTCTT
CAAATGTATCTCTTGGCTTCAGCGATTTCTGGTCCGTGAAGAGTAAGGTGTCGTGATGG
GTGAAGTGAAGAGCTTCTGGCTGTTGCTGGCGTAAGAGGTGATTGCATAAACTTGGAGT
AATCATCATCGTTCACACTAACTGCAATGGCAAAATAAGAGAACAAAGAGATCAAGAAGC
TGATAAAATTTCAATGTTAAACAGATTTGTAGCGAAGTTGTCTTACAAGAGGAAGTTCT
15 TATGTTTGGCGTTGCTCATCTTAAGGTTCTGCTTGAATTGAGGAAACAGAGACAAGAAC
AG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 123>:

gnm_123

CCAGTGATCTTATTTTCATTATGGTGAAAGTTGGAACCTCTCACGTGCCGATCAACGTCTC
ATTTTCGCCAAAAGTTGGCCCAGGGCTTCCCAGGTATCAACAGGGACACCAGGATTTATTT
ATTCTGCGAAGTGATCTTCCGTCACAGGTATTTATTCGCGATAAGCTCATGGAGCGGCGT
AACCGTCGCACAGGAAGGACAGAGAAAGCGCGGATCTGGGAAGTGACGGACAGAACGGTC
AGGACCTGGATTGGGGArGCGGTTGCCGCCGCTGCTGCTGACGGTGTGACGTTCTCTGTT
25 CCGGTCACACCACATACGTTCCGCCATTCTATGCGATGCACATGCTGTATGCCGGTATA
CCGCTGAAAGTTCTGCAAAGCCTGATGGGACATAAGTCCATCAGTTCAACGGAAGTCTAC
ACGAAGGTTTTTTCGCTGGATGTGGCTGCCCGGCACCGGTTGCGATGCGCGAG
TCTGATGCGGTTGCGATGCTGAAACAATTATCCTGAGAATAAATGCCTTGGCCTTTATAT
GGAAATGTGGAAGTGAAGTGGATATGCTGTTTTTGTCTGTCAAACAGAGAAGCTGGCTGTT
30 ATCCACTGAGAAGCGAACGAACAGTCGGGAAAATCTCCATTATCGTAGAGATCCGCAT
TATTAATCTCAGGAGCCTGTGTAGCGTTTATAGGAAGTAGTGTTCTGTCATGATGCCTGC
AAGCGGTAACGAAAACGATTTGAATATGCCTTCAGGAACAATAGAAATCTTCGTGCGGTG
TTACGTTGAAGTGGAGCGaATTATGTCAGCAATGGACAGAACCAATGAACACAGAA
CCATGATGTGGTCTGTCTTTTACAGCCAGTAGTGCTCGCCGAGTCGAGCGACAGGGCG
35 AACTcGmAGTgAGCGAGGAAGCACCAGGGAACAGCACTTATATATTCTGCTTACACACGA
TGCTGAAAAAACTTCCCTTGGGGtaTCCACTTATCCACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 124>:

GNMCG27R gnm_124

CAGTAGAGGCCATACCAATTATCGGCCTTGCTATAATGGATTTGGTGGAAGGAGTCCGAT
AATCTAACTTGCATCTAATAAATTCAAACCTTGGCAGCGAGCCAACCTTGCAATGAACCTCA
AACATTATGCTATTCTTTACTTAACTTTTGATCTGAGAAATTGTTTGTTTTTATG
TAAGTTGGTCGCCTTTATTACAAAAGATTTTGTCTTACTTGATAGTTACTATCTATTGA
AATGAAACAAGTTCTTATATCACTTTTATGCAGTTTGTAGGAAATGCATTTATGAGAAAA
45 TCACAGAGGATGAGATAGAGAGCTGTCCAGTATGCGATATTGACCTCGGGGGGTACCCAA
CTGGAGAACTAAGGTAAGTTCTTCTTCTTTATTCTTACACAATTTTCTCCTCGGT
CTTGGTTTAGCAGTGATTCCTTGATAGACTGTTAGAAGCCTTTTGG

-638-

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 125>:

gnm_125

```
5 TAATTGGAAACGCGGCCAAGAAAGTGAACACGCTTCTCTACACGTCTTTAACTCCACAG
CTACTTATGACTCACCTGCTTATTTTAATCTCCTCAAAAGTCTTCCTTTTTTTACAATT
TTTTCCAAAGACTCAATAATTGTGGTATGATATGGAAGAGAGCATTAAATGGCGTATCTTC
AACGCCCAAGATTTTGCATGTGGCTCTATCGTGATTTCGAGTTTGGATCCATCTCTCTAGG
TATAGAAAAGAGAAAGAGATCAAACCAACCTTTAACAACTTATGGACGTAACATATCAC
TTACAAGCCAAGTCAATGATGAAGAAAACATAGACTGATGATGTGAAGAAAAAAAAGG
10 TAGATAACTTGTGGGATTCTTGATGTTAAGTTTAGAGAAAACAAAGTTGAGTCACTTCTCT
CTTTCTATGTATTTCATCAATCTACAACGAGTAAATTAGCAACAACAAAAGGAACAGAAC
AAAACAAAGATCAGAGGGTCTTTGTGTATCAATAGCTCTCATTGTTTTTCATTTCGGAAG
ATTCGAACATCGCACGCTGGTTTGAGACCATTATCACATCACTCTGCTTCACACTCTCG
CACGCAATAACAATTGGTATATGAACCTTAAATCCCAACCAATCAACACTCAGTTCCCT
15 CTCAAGAACACATCAACCAAGCTTCAAGCGTCTTCTCTTTGTTTGTGAGCAATGTAGCA
TCAACATCATACACTTTGGATTTCTGAGTCTTGTGAGGATCTTCAAGGAGGTAACATTT
CCCGGGTCTGCTTGAATCCAGAAAGTGCTCTCTTTCCGAGGTTTATGTTCTCAGAAGAT
ATATCAGCTTTTCATAGGACTGTAATATAGCACCGTCTTGTGTCATTATTATTAGAGAGCTGA
AGCACCGTGTTCAAGTTCGCATTTCATCAGAAGATCTGTGATGATTTGGCGATATCCAAT
20 CTCGAGAAGTTGAGGTTTGTGACAAGCACCTGAGGTAGTATAGATTTGATTGAAGAGTTT
GCAGACAATCCTACCAACAAGACGATTATAAGGACAACAGAAAACAAACATGCAGGTGCAA
GCGCAGCATTTTCTGAAACATCCAGAGGCGCATATTCTCTTGTCCTCCTGACCGATATGA
TCCACAAGGAACCCGATTTTCTACTCCGATCGGCCTCTTCTCCTCTCGAAAGCCAGAC
AGTCTCGACGCAGAAAGGAGGCGCTTAAAGACGAAGCCTTTTTCGGGTTTTCAACATCA
25 TCAAACCTGTTTCGAGAAATGGAAGGGCTTGAGAATCTTGAACCTCAGATCAAAAGAACCT
TTGCCATAGCTACTATCTTCCGG
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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 126>:

gnm_126

```
30 TATTTTTCCCCATAATTTAATTCATGAAACTGACTTGGATAGTCCGAACCACTAGATTA
GATTTCGCATCATACAAGTACAAGTGGATTATAAACTGAAATAGAAATTCAACTATAAAA
TTCAAAGCACGTAATGAACTTCTTCTTTTTTTCACCTATTGTGTTTCCATATAATTCCACA
AATGACATTTTTTAACTGGTAGTGAGGATAATAGGATATGATGATTCTCAAATTTCGAAT
ATTTGTATATTGGTTGTTAAAACATTCCGATAAGTCACAAACATATAAATCAGCATAAC
35 CTTGGAAAAAATTACGTTTGAAATCTAGACTAATACATCCAATCCAATGATTAGTTTGA
ACTACATGCATAATTGCATACTAAATAATGATCAAGTATACTAAATCTGGAGTTTGATA
TGATTAAGCGmAkstTAATGTTTCGGCCATGTGAAACCTCGTCTTAGAATAGTTGTCATC
ACGCGATGTTGGCTAACGTAACAAGAATCATCAATCTCGTACCACACATGTTGCACATGA
GAAACAAACAGCCGCAATATTCTTGATTACCTTTCTTCTTTTCTCTTTTAAACAAAAAC
40 ATAAGCTGCAATATTCTTAATTCACACTCGGGACCAAAACATGTTAAAGAGTTATTGTTT
TGTCATTGGTATTCAAACCTCGTGATCTTGAAGATTTTTTTTTCTCTGGTCACAACATCA
TAATCATGTTATTTTCTAATATTTATGTATACTTAGAAATAAATAATATAGTTAGGATAT
TTTTTAAGTAATTAATTAACATGCAAAGGATTTGTAGGACGGCATGTAAGAAACAGAAT
CAACTGATAGAACTGCAATAATGCCTGATACACACACAGCTGTAATTGGGGCTCACG
45 TCCCAGCTTGCAATAGACATTTTTTGTGTTATCTTATTCATAAAATATAAATTACAAT
ACTAATATCATGGCATCTCATTACCCCTCATATAATTAAAGTATAAAAAACAATAAAGT
ATACCACATTTCTAAAAGAAAAGTACGCATTATGAACCTTTATTAACCTCAAATATCGAGTA
TCAGAGTAAAAATATGTCATATATAAGCCATATAGGCTTTTGTGAAAATCAACGGCATGT
GTTAATGTTACAGGAATGAATTTGGAATCTTTAAAGGGGAAAAAAAACAAAAATGAAAC
50 TCACTATGCAAAAAACCATGTCTACCTAAATTTGGTCACAAACATGTTTTACGTGATTAT
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-639-

ATTTGCCTTCATGAAGTATAGACCAACAAGAACGTCTCAAATAGTAAAGACAGAACGTGG
GTAAGTGACAAACACGGTTGCATGTAAAAGGTAGGTACAAACGCTATATCGACAACCAGA
TATGGTTGGTGTATATCTGTGTAACCTAGTGGTGCATGCTCAATGAAAGATATAACCA
5 AAAATAACACTTTTTTCTTATGCTTAAGAAACATATCAGATTGGTGATAACTTGAAC
AAAGACCCAAGATATGGATATGAATTTCTTACCTAAGTTTTTAAAGAGTCAAGAAGCAAT
GCCTTGTTAAAACAAACGAGCTGAAGTGTGCGTCTTTCCAGCATTATCATTTGTTGGAAC
GGGTCTCTACTTGTCTTTTCTCCTGATTCTGTCTCAAGATTCATATGTTAGCTTTTTGTA
ATAATTCTAGGTAATAAAACAAATTATCTTAGCAAACAGAAATTAATTTACCTCTGTTCT
10 TTGGTGACGAGCTTCCATGACCTCCTTGTGGGGTTACATCTAACAACACTTAAGAAATT
TTTATGTGTCAAGTGTACATATTGTAAGAGATGTTAGTGAAGAACACAAAGAAGTGTGTG
ACAATGTTACCCGTACATACTCATTTTCGTCTGAGAGGCTCTTGCATGGATGATGAGG
TCTCATCTCCCTGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 127>:

15 **gnm_127**

CCCTGCCTTTGCGAACTTGGATAATCGATATTCCTTTTTTAAAGATGTGATCTTCGAGT
TGGTGAATCTGAAATACAGAAAAACCAAGGAATTAGCAATAAATAGGCAAAACCCAGT
AATTCCAACAAATATGTAGATAAATCACAAATATTTCTCCAACCTCAAACACCAACAACA
GAGGAAACTAAGAGATACTGAAAGAAAGTGAACATAAACTTAAGAGATATGATTAGAAC
20 TTCCAAAAGAAATGATATGAAACACTGAGTCAATGAACCTCCAAAAGACATACGCTTAGAC
TATAATTATTTTATGAATACAATAACAAGGTCAAATGAAAATTCTTTGATAAAAGCATA
TATGCGTGTTAGCTGTTATTCCTAATTTAGTTGAGATAAACCACCTCTAATGTTGGACC
TCCAGGTCGTTTCCAGGTAATCCCTAAAACGCAGAAGACTTTTAATGTCAAAGGCACAG
TATCACCATCATAAAGTGACGAAATAAGAGAGTTTGAAGACTACCTCTTCTTTTCTAT
25 GGTGTTCTGTAGAAGAGCGACTCTCAGTGAATCATTGCAATATTTCAGGAAATCAGGGT
TCAAACCTCCTTTTGGCATGGCTGTTTCGGCCTTCCAGTAAAAACTATCTTCCCGTCAT
CAAGAAAGCGGGCTTAGCTGGTTAAGGAAGGACAAGAAATCAAATTCATACATCTTTTT
ACTTGATCTCGTGAGGAAAGAAAGAACAGGTGCACATATCTTATATCAGAAAAGATTCC
CTATAGTTTCATATCACACCACATGAAATTGTGTAATATTTACTAAGAAGTGACATGCTAC
30 TTTGATCAAGTCATGTTTTCCATAAATTTCAGAAGGTAGTGGGTTGCATAGATGGTGATT
TGTGAATGAAAAGAAAATAAACCTTTTGCATAAGACATTACCATTCCATTATCGTCAGA
GAACCTGCTGTTGTTGAAATCTGCAACGTCACAGAAGTAATTTCTAGAGTCGCTATATTG
TTTGTGCAAGTGATCACTGAAAGTTTGAGTTTTGCTTTCTGCCCCATCTTTAGCATG
TATGCCAATTGGAGACCTATAAAGGCTGTCATCTTGGAACATTTTGCTACTTTGAATCAT
35 TGTGTCTGTAAAGAGGGAGATGAAAATATCCGGTCAGGAAAAAGAGTTAGAAATGAATG
GAAGACAGCTAAAAGATAAGATGACGAGACTTTGTTACCACTTCGTTCTCAAAGTCGTTG
AGCCTTCCCCTGACATGTGATGTATCTGGTTGACCAGTATCCTTCCATGGAGAGGAGCAC
CGGTACACAAAAGTTCTTTTACATCACAAGTTAAATAAAATCACTGATCTATATCTTAAG
TGGTACATATTACTGCTAATGTAAGAGAAAACAGTATAAATAAAATAAAAGGAAAAACAA
40 CAAAATGCAACAAGTCCCAAGAAAAAAAATACTCGTGAATGCTAATCACC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 128>:

GNMCG29F gnm_128

CCATACATCCAGTTCCACACAAAACCTGAGTGGAACAAACAGAAACCTGACCGGAAGAAA
45 GTGGTGAGGATGGTGAAGAGATTGTTATCAGACCACCTAGGGATTTAAGACAACCACCAC
GGCCAAAGAAGAGGAGAAGTCAAGGAGAGGACCGTGGACGTCAAAAGCGGGTTGTTTCAT
GTAGCCGGTGTAATCAGGCTGGCCATTTGAGAACAACTTGACAGCTCCTATATGAAAAA
CATATGACATCTCTCTTTAGATGTTTTACTTCTTCTCTGATCTGAATTTATTATTTCTTA
TACTTAGGTTTAGAATATTATTTTCAAAGCCTTTCTCTG

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5 GCTGATCTAAAAAGGATAGAAACAGTAACCGCCGTGAAAGCAGCCTTAGCATCCTCAGAA
CAAACACTCAAAGCTTATTAACCCATCCACTTCCTCCATTCCCTCGATTCCCTTATCATCA
TCATCATCACAACACTGTTCCCTCTTTATCCAGGTCATCAATCACCGGTGGATTCTTAATC
CATTTTCGACCCTTGAAGAAACGGAATAATAGAAGAAGCCTTGAAAGATGAAACCCCCAGA
ACATTTCATCGTTGACGACTCATGACCCGTCGTTGACTTCAATATCGAGATCAAACCCATC
ACAAGCGGGCTTTGACTTCCTTCTCCGATGAGCTCCCTCGCGATGCTACCATACATCGAT
GCAGGTCGATTCCGAGGAGATCTATCGAAATCACGCTTGTGGGGAGAAGAATCTAGGACG
AACCAAGGATTCAAAGCAGTAACCACCGGGACCAAC

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 132>:

gnm_132

15 CAGCCATTAATGTTAACATTTCTTTATGTACATTTCTGATCTTTGGTTGTGTGTTTTCTC
TCATCTATAGGTGCGACTTCAACTGGAAACACTGTTAGCTGAGAAAGCACGGTTGGCTCA
TGAAACTCGATATACACCCGCGAAAACCTCTATCTGAGAGGAGTCGTCGAATATCACCA
GCTAACAATGCAAGATGTGGTCTACTTTGATGAGAAGACTGAAGAAGTAACGGAGGTATA
TCCCATTAATGTGTCTTCAATGTCTTCTTCATCAGATAACTCTTACAATCCAAATCCAAG
TTTCTTGGAGCTCAAATGAAACACCACAACACTATCAGTTTCTGCTGTTCTTGTGTGA
ATCAGACAAGAAGACAAATCGTTGCCGTGAATTGCTCTGATTTGTAGAAATATATATAC
TCTGTACTCTTTATwTGGGGTGGGGTCTTAAGAATTAGCAGTGAATGtAtTTATTACCCCT
20 TAATTAACCTAAATAAAGAAGAATGTTCTATTATTTCCCTGAAACAGTACCATGAAAGC
TAAAAGTTGAACTGGTGAGTAGAAATTAGTCAATTATTAATGGATATTACCTGAAATTAC
AGAACAACAATATATATATAAAGCTACATTAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 133>:

25 **GNMCG36R gnm_133**

AAGCCTTTTGGCTCTTACTGTTGATGAAACGAATTTTCTTACATAATGCTGAAAAGTTGT
ACATGATTATGCTGAGGTGTGCCACATATGGAAGGTTCTCCGTAATTTTGTGGCATAG
TGTGAAGTTAATCAAGAAAAGTCATTCGATTGAGAAGCAGTTATGACCTGAATATGTTG
GCTAGTTTAATACTTTTCGCTGACACCAACAATTTTTTGTAGAACCTGAAACAAATCTCT
30 TTAGTACTACACTCTCTTACTAGTTGGTCACCAGTAAGAGCTTTGTTGGTGGCGAACT
TATTCATTTTCTAAAGAACCCTCTTATGTATTTATTTAGGCCTGACCACATTTTGCAA
GACTTGAGAGCCAAATATTTTCCTCTAAAACGTAAAAGGAGAGAGCGCCTGAAGTTGTG
TCCTCCATCTCATTACCTGCAAAGAGGAAGGAGAGGTCTATCTCGTCTTTGGTGGTAAGC
ACACCCAGGGTTTCAGCACAAGCTGGTACAACAGGAAAAAGAACAAGCTGCTACGAGA
35 AAAGATGTAAGAGGTAGTGGTTCATTCATAAGAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 134>:

GNMCG36F gnm_134

40 CCATTATTGTTTTTCTACTTGTAAGTGTGTTTAGAAATATATTGATTGTAAAGAAAAAATT
GTTTTTTAGATATTATTTTTTTAATTACAAAATTAGTAAACCTCACTATAAATTAATAAT
TATTAAAATTATCGATAAATTAATATATTTATGAATATATAGAATTTTCGTTTCTAATA
TTATTAATTTGTAGAGGTTTTATCGTAATTGTTTTTGGTAAATGATTTAACCTCTTAAT
TAATCTCCTTATACCATTTACAAGTCTACTTCATGCAGTTTTCAACAACGTGCATAATTT
GTGTTTAACAATATTATAAGAAACAACCTTTTAAAAAATTAACCAACTAGGCATTTGGT
45 TGAAAACAATTACAAAAA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 135>:

gnm_135

```
5  TACATCAACTCCGTGAGACTTTTGCATTGCTACTTGGAGCTCTACGGTTACTTCCGTTG
   AAGCGCTCTGCAATGAATGACCTTTTACTGTTTCTACTACACACGTTTTTGACGTTTAT
   CCTGTTTACCTTTTGTCTTGTACTACAGTGATCTTTGAACCTGAAAGTGTCTCAATA
   TATGTTAAACTTGATTCCAGTTAGATTGTTTTGGTTTTTATACAAGAGATTGGCCTATG
   GCTGTGGAGTAATGAGTTATACTTTGTTTTTATGACTCGGTTTAAGAATCTCTTGCATA
   AAAGTGCAsAAGCAsACTCTTTTTTGACAAAAAAGTATCACAACAGAGTAAATCAAG
10  ACCTAGACGAAAAGCGAAAAATGACAAAAGCCACAAGAGTTGTGGTAAGCAAAATGTTTG
   GGAACCGCTCGAATCTTTTAAAGCATTGGACATCCATGAGTCCGGCGGCAAAATGATGTG
   TAGAAGGGTATGTCACAATCTTTGGAGCAGAATCCGAATGTGGAAGTGAACCATATTCT
   CTACGAAATGAGATAAAACACGAATGTCTGCAGCGATAAAATGGACTTCGTTTGTCTG
   GATTATATTTGAACAGCCTCTTTTCACTGTCATGGAAGAAAAGATTCCCTTGCTTAGAAA
15  CTGTCACCTGGTCTACACCACAACCTCCATATCCAAGGGTGAAGAGCTCTAGGGAATAAAN
   CAAATGAGTACGTCTTGGTCCATGTATCTTCCGGATA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 136>:

GNMCG37F gnm_136

```
20  CCTAGAAAATTTTCCTTATAGAGATATATACAGACAGTAACAAATAACTTTCTAAATTAA
   CTCTTCTTATCACATATATACTGAAAATGTAACCAAATACAACTGGATCCAACCTCAT
   ATATACGTCAAATGTTTTCCAATTCAAAATCTAACCACACAAATTAAGAACGCTAAAT
   TGATCTATAGCTAAATGTCATTACACAAGTAAAAAGAAACCGTTTTGTAAAGTTATAATC
   AATCTGACCATAGTCTAATTTATTTCTGTCACAAATATTTCTAAACGATGATCTCTTAA
25  ATGTTAAAATTCATCATATATTTATACCCAAACAAAGCGGCTAAGTAAGATAGGAACCT
   TTAACACAACCATAAATAGC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 137>:

gnm_137

```
30  TGTGTGCTCGCATTACGACATAAAAATGTAATTTGAGTTTTATTTCAATTTCTTTGACAAA
   AAAAAAAAAAAGTTTTATTTCAATTTATTTACCCTTTTTATAGATATAAAATATGTAA
   ATCAAACTTTTATATCGTACAATTTAAGTATATATTTGTGTTTTATTATGTCAAGTTCA
   TTCATTAATTTTAAATTTGATACAACAAAAGAATAATGTAGAAAGTCAAGTATACAATGA
   TGGATGAATGGATTTACATAATGCTTTTTTGGTACGTAAACGTTAGTATTTGCTAACAAA
35  GTATTAGTTGCGTTATTTTTTTTTCAGAACAAATCAATCCTAATTTTAAATATTTTATTAAA
   AACACTATGATACATATTAATTTACATTATAATTTGTTATTGAAAATAAAAACGGAGCAA
   TTTTGTATAGGTTTTTTTTTTTGTCAACCACACAAAAATGGTTTACAAATTACAATGTAA
   CTTTAAAAAATGGTATACAACCTACACTAACAACCATAGGTCACAAGAAACCACACTTGCT
   ATTTTTTCTAGATCCAAATTTACAAATTTAAACCACACAAATTTCTAGAAAGGAATCAA
40  TATTTGGAATGCCATTTAATAAACTTTAACTGTTATTTTAAATATATTGAATTTAAAA
   CGAACTTTGAATGTTTGTGTAGTTTGTAGACGAACAATAATTTGTCAAGTTAGCTAGGTG
   ATCAAGATAGAAAAAGTTTCGTGTGAATCATATTTGTTCATGAAAATTTGGTGTAGTTT
   ATGGTTATGAGGTTATCTCATATCTATGTATAAAATTAGAATGTAGAATTTGTCTGACA
   TACTTGTTTAAACTTAAATTTATGATACATATATCACCTATTCTTTTAAATCTTAACT
45  TTATAATCCAAAACGCAAGATCATTTAGGCCATTGATTTGAATATTTGTGCTTATGT
   TCACTCAGAAGTCAGAAACCATACCATATCATGTCTTTTGCTGAAACTCATAAGCCAA
   CTGTGGTAGGGGAGGAATTTGCAACAGTGGTCTCTCTCTCTCAGAGTTCATTCTTCCC
```


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TTCTTCACAGAAAAAAAAAACCCCTTAAGGATTAAATCTCATCACTGTTTCTTTCTTCTT
TAATCACATCTCAGTTTTATGTGTCAGTGGTCTCTCTACCTTCAACGATTATCCAAT
GTTCTTCATGCATATATATAAAC

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 138>:

gnm_138

ACTAGATACCTCGAATAGTTCCTGTGGAATCAAACCAGAATTAGTAGACACATAATCTTA
CCAAATGTGAAACAAGGGTGCTAATAAGGGCCTTGTTACAGATCACGATCGAAACAGAGG
ACACAACGGATAAACTCAAAGCGCCGATTGTTCCAAGCTGGAACCTCTGGGCATCGCTCA
10 TATTTGCTCGCTTCTTCTATCACGATCTACGATGATCTAATAAAACCAACAATTACAGTA
TGGAGGAATCAAACCTCACATCACATGCTTAGCCAATCAAACCAAAGTAACTGTAAGAG
CAACGCGrAGAAGAAAAAAGGAACCTCATTTACGAAAATGCGAGAGAATTCAAAGCAGGA
GAAGCTGAACTGCACCAATGGAAGATAATAACAACACGTCAAATTACAAGCAGAACAAGG
ATAGTGTAAGTCGAAGAATCCTGAAGCAATAAACCTAGATCTATCGATGAAGATAAAA
15 AATAGTTTAACGGAGATTCAGGAGAAGAAAAGGAGAGAAAATGGAGAGAGAGACCTTGAG
AGAATCAGACAAGTTCTAATGGAGGAGAAGAGAATCTGTGAATTTGGAAGAAGAAGCCTA
TTTTTGTAATTCCAAGAGATTCACCATACGTCAAATTTGGGCCTATATGTAATTAATA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 139>:

20 **gnm_139**

CCATCTCTCAAACCTCTTCAACGAGCTTAATGAAGAGAGAATCAGCACCAGGCTCTTCAGA
GAAGAAGCTGTATATGCTTCTCTCACAGCTGCCTGATTTCTTATGTACTCATTAGCTAA
TTTGCAGAGATGAGGACATTCTCTCCTGTCCTTGAATCCCATCTGCCGCACTACAAAAGA
CACAAACAACATTTCTTAAATATGCATCATAATCTAAGATCAGGAAGATTTCAAGGAAGC
25 TATGTAGATTGATTTTACCAACATAGTGAGAGAATCTCTCAAGCTTCTCATGGCCTTTGT
GTTTTTGAGACGATCTGAGACGAGGGATGTTCTTGGAGTGACGTAGCTTCTTAGACGGA
AGTGCAGTGCAAGGGCTAAGAGTAAGCCAATGGATGAGATTACTAAATCTGTGCGAAGG
TCGTCGTGTTGTTGTTGCTGTTAACTCTGGAACACACATTGATCTGGATTTGCTTTGGG
GATCATCAAGAGACATGAGATTAAGATTGTTAGAACTCTAAGATTGGGTCCATTCTTGAG
30 TTTGTTTTCTGTTACGAGACAATGTATCTGCTTTCTCCACGTGTGTTGTACTAAAATAGC
TTTGAGTCCTATTACTCCGGAAGTTTCTTAGTTTGCTTTTGTGTGATTTGACTCACCAT
TTTGTTTTAATAACCAAACCTCTCATCCCCAATGTATGATATAATAGTGTTTGGCAATGG
TTTTATAAAATCTATTCTGTTAAGGCTATAACATAACAAGAATCTGTC

- 35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 140>:

GNMCG42F gnm_140

CCTGCAAGCAGAGACGTCTAGAGGATTGATTACGTATCCTACAAGTAAGAAATAGAAGTT
ACCGGCGACATTGATGTTCTCGACGATGTAAAGAACATTGTCCTCGTTGATTTCTCCCTT
CTGCTCAGCTTCAAGGATGTGATCAATGGCACATTTCAATCCTTCACTACCTGTAGGCTT
40 AGAACTCGCAATTTGCCTGTAAGAAATGAATCATCAATGTCAATTTCCCAAAATCAAACCTC
AAAAGATAAACTAAAAATAGAAACAAAAAATGAACTCACTTCTCTCATCAACAAAGT
ACTTCTTGAAAAGAGCGATTCTTCGATCTTTACATCTTGACAAATCTTCAAATAGCCTC
TGAGGAATGGTCTAAGGATAGGAATGAAATCTCCATAGTTATACTCnAAGCTCTGAGCTA
ATCGACTTCTCTCACCATTCAAAGCCTTAAGCC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 141>:

gnm_141

5 CTTCTGTTTTATATGAGGTATCCACTCGGTCTAATATGGAAACACATAGACCGTAGTTCT
ATACATTGGTTC AAGTCTTGTGCTTATCAATATGACTGTAAGGTCCCCATAAATGTTTAA
ACTAAAGTTAACTCTCCCTTTTATTTCCGACTTGTGTACCGGGTGATATCTTATGATCTG
GGACTTTTTTCGACCCACCGGTGTTGAACCTTAAGTCTATGTTTTTTTTTGTAAACA
GGTAGAGATAACATGTATGGGAGAACCAGTGATCCCAACGTTGCAGCTTCACAGCTTAGT
AGACCTATGGTTGGAAACAACCTCTAAGCATCAAAGAGTCGCTGCGTCAATAGGTTTCATC
10 TGCAAAGGAATTTGTAATGGTGCTAGTTTATTCTCGGAAGCTCCCTGAATGCAACAACATA
AAGAGCTATTTCATTGAATCTTTTCTAGACCGAGAAGAAAGAAAAGTGCAGGAGCAGTGG
ATGTCTTGTGTAGAAAAGAACTTAGCAATTTATATTTATTTAATTGTAATCTTAAATTT
GAAACATTGGTGTGAGACAGACACTTTGTTTGTATCCAAGAAGATTCAAAAATGGCTT
TTTAAAGGAGATTGTGTCCTTTTTGGATATTTGAATGTATGATTAGGATAATGTTGTCAT
15 TTCTATAAATATTTGTTTCCTTGTGTTGGACTAAATGGAGAAGTACACGGAATCCTTGTGA
ATCGAATGACTTAGCCATTATTGAGAAGTCAAAGAAAAATAACCAAAAAAACTTGTG
AAGTGACCTTAAATACAAGAAATTAAGAGAGATGTATAAAGTTTTCTAACAATTTTGT
TCACCAAAAAAAAAGTTTTCTAACAATTTTTAATACAAAATGCAAAATTAAGATGAAT
TTTCTTATTTCTTTTTTAAACATAATTTTGAAGAAATTTGGTTGTCTTTTGCATTG
20 TTTCTAGATATTCTAACTGTTGGGAAATAAAAAATTTGCACACAAAACATAGTTAA
TTCACGTGGTATTTATAGAGATTACTTCAACCAATTTGGATTTTGGGTCATTGTTTTA
TGGACGGATAAACTATCCATTAGTCAAATTTCCACAAAAATAATGTGAATTAGATTCTG
ACAAGGCTAATTCCTCCCAACATACGATACTAGAACAAACGTCTCTGACTACTTGACGT
AACAATGT

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 142>:

GNMCG44R gnm_142

TCCTTTAGTTTGAGATTAGTTGTGCAATCAAAGGAAAGGAACTTCTTGGCGAGTAGAGA
GAAATGGTGATTGGTGAAGGTGAACTCTTTTTCTCAATTTTAAATTCATTTTTGTGA
30 TTTTATAGCAGAAAGTCAAACATTTGACCGAAAAGGAAGAAGAGAGATAAGTCAAATCC
GGCTGCTGGGCTTATTGGGTCACAGATCATGTGTTTCATTTGTTATGCTTGACGAACG
AAACCACTATATTTTGTGTTAATATTACTTTCTTTAAGTAAGGATAAAACATGTCATTGT
TTTACAAAAAATAACTGATAAACATTTCTGGTTCCCTGAATATACTTTTTTTTTTGT
GAAAGGGTTTCTTATATACTTGAACATAAAAAAGTATACAAAAAAACAAACAATAAC
35 CAGAACTAGATTGGGGAAGAAGACCAACTAAGGTACTTAACAAAAGAAGATATCAAAAC
CTATATATCTTGATAATGATGGATTCTTTTTGGTTTGTGATGTTAATGATAGTTTTTAGT
GTAGAACAATAAGAAAATTGACTGAACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 143>:

GNMCG46F gnm_143

CCGTGACTTCTTCTGCCGGGATCTTCACGCTCTCATCCAGAAATTCACGCCCATAAATCG
GGTTGACGATTTTGACGCTGGAGTTGAGGTATTCCAGATCCTTCGCTTCATGCGTTGCAC
CAAGCATGTTGGAGTCTGTGGAGTAGGCTTTTTCGACAGACATTTGTAGTCGAAACCGC
AGCAATCATAAATTCAGACATCTCATGACGGCCGCCAGTTCATCAATAAAGTCAGTATC
45 AAGCCACGGTTTGTAAATCTGCAGTTGAGCATTTGGTCAGCAGACCATAACGATAGAAACG
TTCGATATCGTTTCTTTGTAGGTGCTACCGTCACCCAGATATTCACGCCATCTTCTTT
CATCGCAGCAACCAGCATGGTACCAGTCACGGCGCGGGCCAGCGGCGTCTGTTGAAATA

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GGTCAGGCCGCCGGTGGTGTATGAAATGCGCCACACTGAATAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 144>:

gnm_144

5 CTAAACTAAAGTTATGGTCTAAAATCACACTCTCATTTACACAATACTTCTATTATTAAT
GTTTGGTTCTGACTACAATCAAACCTTTAGATCAAAATTGTTTCTTGACTTCTTGTTGAT
TCACCACCAAACCTAGACTTATCTCTATACATGTTTTCAAACCACTCAACAAATATAAGC
AAACAAAGATCTTCTTCACTTTGCACATAACCAGAATGAATTTCTACTAAAAGATGAGAT
CTGAGAAAGATCAAGGAAGGCTTTTTACCAAGAACAGGAGCAGAGATGGCGACGGTAGG
10 CTTGAGAAGGAGAGCCGGACGAGCGCGGAGACGtGGAAGCGGAGGCAGTAAAGCTAGCC
ATTTCTCTATTTGCTTCCCCTAACGACTGAGAGACTCTTCAATTGATTTTTGTTTGTTC
TGTTTGTGTTCTACAGCAACAAGAACACTTTTAATTTCTTTGCTTGTGTTGGCTTTTGGA
TCAAACATAAATATGTGGTGGATAAAAAATCTGTTGGAACCAACACAAGCCATCTAACTT
GGATATGCTTCTATCCATACTCCACCAATCGACGCCCTCCACGTGTCATATTTC

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 145>:

GNMCG47F gnm_145

CGAAGCTCTGATGTCCTTCTCTTCTATCATCTCAATCATTGATTCCCTGAAATCTTTCTT
TGGATCAACGGACCGCTTCATCACAGCGAAGTCTCTAGAACATCTTGTTTGCTCTCTGA
20 TCTTCTAGAAGTGCTTCTACGAGTACCTGAGAGTTGAATTCTAGGTGAATCACTCTTTT
GAGGTTTATCCAGCAGATGGTTTCTTCCACTAGAACTTGCCCTTGGTACTTCTTCTC
GGCTTTATATTCATTATCATCTTCATCTCTTGAAATTTTACAGAAAGATGGCTTTTCTG
CGGTTTCTTAATCGGCATGCATGCAGTACAAGCTTCTCTACCGAATCAATCACTTTG

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 146>:

GNMCG48R gnm_146

ATGGCATAGCTATTTCATTACAGATCAAATTCACCTTCACTTGTTACCCTGTCCACTACCAT
GCAAATTTATCAAAGTAACCTTTAGGATCACTCTCAAAGTTATCTCTGAAATGTAAGAAG
ATCTATTGCTCCCTGGTGCTACCATGTAGCCACCTCCGCCCCCACCACCACCGCTTTTCC
30 CTCCTCCACCGCAACCACCTTTCGCTCCTCCACCGCCGACGCAGCCTCTTCTCCTCCAC
TGCCACCACCACCACCTTTTCTCCTCCACCGCTACAGCTAACGCCTTTTCTCCTCCA
TTCTTTGAAATAGTAGTTCTTAGTTTCACTCTCTAGAAATTTTAAAGATTTTGTGTGAAT
GAGAA

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 147>:

gnm_147

ACAACCTTCACTATACTATCGCCATATCCATCAATCTAACATCCCTGAGACCAAAATTA
GAAAGCGAATTGAAGAAACCGCAGAAGTAGAAGAAGCTCACCGACGGAAGTGATGCTCTT
GAGCCGATTGAAACGAAAACAATCGGAGCTAAAACAGATAACAATAGCAGCGAGAGGAT
40 CAGAATCCTCTGCCAACGACGAACCTTGATTCATCAATGTGCGTAACTTCTCAGAGAACGC
TTCATATATTTTATCTCCGTTGCGCTTTAATCGTTCTCCACGAAGAAGAAGAAGCACATT
CCCAGAGGGAAGAACACAGATCTCGGAGATTCTCTGCTTCTTCAACAAGCAATTGAAGAA
AACGATGAGCAGATTAGGGTTTTTCAGATTCTTCTGCAATAGGATTCGATAAATGCGAGAG

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TCTGTTTCTACGATTTTCATATCTGGAGATTCAGAGCTTCCTCGTCATGTTTAGAGACTT
CTGCTCTTTTATTTTTTTTCGCTTAACTCAGAATTTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 148>:

5 **gnm_148**

TTAAAGAATGTCTTTTATTAGTATCATCATCATTCATCATCAACATCAACTTGAGACATC
ACATTTACACGCTTGTGCTCACATAATTAATAAATTTATTTTATGGTGAATTTTAAAAAT
TGGTTGACTAATTGAAATTGTATTTGGTGAAAAACTGAAAATCATAAGAACATAACTTTT
10 ATCTAAAATATTATATAATTAAGGGAATAGTACAAAAATAATTATAAAACAGAGAATCAG
TTGCTTCTGATTTCTGACAGATTTCTATCATCATTTTCATGGAGATTTTACTCTTCATCGA
AATGATAAAATAACTGAAAAATGTAATTAGCGAATTATAAAACAGTAGCAAATGTAAACA
GTTTTAAAGAATACACAAAAAGGTTGACCAAATGGCAATTACAAAAGAAAAATACAGCTT
CTTTTCCTCGAAGTATGCTTTTGGATTGAAAATATTTAAACGTTTCTAAACGGACAAATC
AATTTAATAAATAAAAAACAAAGTTTTTCACAATTCAACTAAAAGTTTAAACATATGTGAATC
15 TATCTAGGTTAAAGACTCAAAGTACACGTTATAATGrAGTTCAATAGTTTCATTTTCGATG
CTTCTTTGAATTTGGTAAAGTGTGAACCTTATCTTAAGTTTTTAGGTAGAAATAATTTAG
TATAGTAGCACTTTATGTTAAATTAAGGTGATACAGATACACAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 149>:

20 **GNMCG53R gnm_149**

GAAATATCAAGATGCTGGCGTAACAGCATTTCTGGTGGAGAAACGTGGTCGAAACTCAT
ATAGCGCACGGATTCAACGGTCGCTTTCAGGTTCTCAATGGTATCCCACGCCAGTTGACA
GTCGGCAATCTGCGTCAGGAGTTGATGGAAGTTGTCATCAAGTTCAAAAAATCATCCAG
25 TTGCTTGCGCTCAATGGCAATGCGTTGCTGGTGAAGATTTTGTTCAGTTGATAGCACTG
GCTTTTCGGTAATCATGCTCGCCGCCGACGCGCCACCGCGCACTCAATGGCCTGACGGAT
AAAAC TGCCGTTGCGCACCTGGGCCATGGAATTTTGTGACGTAGCTGCCACGTTGCGG
ACGAATTTGAATCAGGCCGTTTTCCGCCAGTTTAATAAAGGCTTCACGAACCGGCTGGCG
TGACACATTGAAACGAACAGAAACTTCTTTTTCCGACAACGGTGTGCCTGGAG

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 150>:

GNMCG56F gnm_150

CCGTGGACAGATCCTGACTCTCACGACATCCGAATTTTCAGAACAAGGTAAAAATGATCT
TGGATAGAAGCTTGAATCACGGCAAACAGTTTTATCCCTCACACAAAAACAAAAATATTT
AATTGTTAAAGCACATATTTTCACACATATTATAATACAATTAGGTCAAGAATTTAATTT
35 TTCTATTTGGAAGTAGATCAATATATAAACAGAAGAAGAAAAATGTTACGTGCCTGTGCGC
CAACAAGTCTGTACATTCTAAAGATGAGATCTTCTTCTTGTTCGGTCATATTGATAAACT
CCCATTTCACTACTCACTTCTGCATTTTAGTTAGTATATAAATTCAAATATCAGTGA
AAACGTACATCACAAAACAATTAATGTTACAGGTCAAATGAATGAGC

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 151>:

gnm_151

CAAGACTTCTTTCTTCTCTGCGTTGAGCTTGTATGTAGGTATCAGCGTCTCTCTGAGC
CAACTCGAGCTCATGTTGTAAGCTCTTCAGCTTCTCCTCAGCGGCTTTGCCGATCTCGAG

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CTCATTTCAGAGAATAAGTCTCTTTCTCAAAGTGCTGAAGCTTCTTTTCGCGATACT
CAGCTCTTCCTCCAAGGCTAGCACTTTTGTAGCTACTGCATCTTCTTTAGTGTCTCTTT
ATCCAAATCAACACTCTTTTGTTCAGCACCAAGATGATCCTCTGTGTCAAAGACATGAA
5 GCTCTGAAGCTGATTCTTCAGATTAGCAATCTCGTCTTCGTGCATTCGCATCTTCTCATT
AGCTTCTTTAAGCTCTCCCTCATATGTAGTAATTTTGTGAAGGAGATCAACATTGTTGTC
ACCATCAACACTTTCTGCTGGAGAAGGAGCTTCTGTTTCGTCTCTTGAAGCTCAAGCTC
AAGTTCAGCCATTCTACGGATCAATGCCTCGTACCGTCTTCATCATTGGCAGAGGAATG
ATCAGAATCAGAACCAGAATCTGTCAAAGACGATGAATCTTCTCTTTATGGCTAGA
10 TTGACGGCGACTCAACTTCTCTTTGGTAGGAGATGATATCTCAAGAGAGCTCTGTGACTG
GATCTCAGATGTATGGTTCTTCTGAAGTTCACCACTAGCTTGATCATAACGCTCAGCCAA
TGCGCGATACATGCGGTAGAATTCTCGACAAGCTGGATTAACTCGGGACGTTTCTGAAA
ATACATCTGAGCTTTCTTTGCAAAAGAGTCTGCGTCTTCTTCAATCAGTTTTAACATGTG
GTTACGCGATCATCCATCTCTGAGAAACCAAAACAAGAACAAGAGAGAAAACATCAGAT
15 TGTGTTCTTTTGTAGTAAGTGGAGAGCTCAA

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 152>:

GNMCG60F gnm_152

TCCACCAGCTCAAAGACGTGAGTAAACACTCTAAACCCAAAAACAAAGCTTCTTCTTCTT
CCTCAAAACACTTGTAGCAAGAAGAAACCTTCTCAGATTCTTTCCTCAACACTCTTATT
20 TCTCCAACAGCTTAGTAGCTAACAATCCTCCTCACCATAACTCACCAAGAACTCTCTTC
ACACAAAAAGATGAGTAAAAGAAAGACACTTTACAAGCCATCCCTTAAACCTTTGACTC
CTCCTCCTCTTCTTGTATCTGCAAGTTTCAACAAGAGCAAGATCAACGATCAAGATTGCT
CTTACAGCTTGTTCCCGGCTATTGAAACCTCCCCTGAGTCTTTTGTGTATAGTTTCTACG
AAGAGGATGATGATGATGAGTTGTTGAATTTTCAACTTCAAGATCAACACAAAGAACA
25 AAGCTTTCACCAAGCAGAAGGTCAAAGTGATTGATTGCGT

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 153>:

GNMCG62F gnm_153

CCAATAGGTCCAAGTAATTTGCGGAAAAGTTAGTGGGCTTTAAATATAAAACATGACTGA
30 AATTGGGCCGTATTCGACATTTAGTTGTATTATTCTCTAAATATTCAGAACTCTCAATAA
AATCACTCTCTGGCGACTCAACGTTGGCCAGAGAATCGGAGAGGGACATTAAGTCTGGC
AGACTGGCAGAGTGGCAGTAACCATACGCCGAAAGAGATATTCTCAACTTGTCCCGTAAA
TCAACATCTTTACGAGACCTTCATGCACCTTCGGTCTTTTATTGTTTCTGGGTGGTTGG
TGTGGCAAATAGCTAGCTGTACGTTTGAGGTTGCCAAGAACTCCAAACTCAGACAGTAC
35 GTGAGTCTCAAAAAGTTTTTCTCAGCTAGTTGGAGATTTTAGC

35

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 154>:

GNMCG63F gnm_154

CATATTCAGATATTTTATCCAGTTGTATCAAGAGCAAGTCCACTGGTCCAGTAGTCCTCA
40 TTACGGTAGCTTGGGACCTCCTTTTCTATATCTCTCTTTACTCTTCGTCACAAAGTTT
CTATATAGTTTCTCTACCTCACATCTACTTTTTTTTCAATTGCATTCTCCAACCTCAAAA
TCATCAGTTGTAAATAATTTGTCCCTTCCACTTCCAAATACCA

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 155>:

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GNMCG64R gnm_155

5 CCAAACACATCAATCCTTCTCAGTCCAACATGGTCCATTGCTCTGCTTCTAATATACTGC
AAAAGCCATCAAGACCTGCTATTTCAACTCCTCCTGTGGCTAGTAAATCCGCTCAGGCGC
GGATTGGAAGGCCTCCTGTGAAGGGCGAGGGAGAGGCCACTTGCTTCCGCGGTATTGGC
GTAATATACGGATAAAGAGGTTTCAGCAGATCTCTGGAAAGTATCCTTTATTTGCTTCTA
GTACTTTTGCCAAATATTTTATTCTGGACAGACTTCTGGTGACTCATTGTTTATCTTAAC
AAATTCTAGTTTGAATTTGAACATTGTACCTCTCTTTGAGAAAACCTCTAGTGCCAGTGA
TGCTGGTTCGATTGGTCGTCTAGTTCTTCCAAAAGCCTGTGCAGAGGTAATTTCCCAT
CCTTAGGTGATGTCTTTTCTTGTCTTGAAATATTTTGTAGAGTTAGTACTGATGTCT

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 156>:

GNMCG64F gnm_156

15 CCTTTTGTACATAATTAATTTTATATTTATAAAGAGTATATAAATAACATATGATTTG
GATACTATTGGTGGATTATTTTGAGGATTTTCAATTGTACACCTCTAGAAATACAAATAA
AATAAAAATACATTTTGGTCGTAGATTGTACAAGCATTGATTTTTCGATACAAATTTGT
CATCAATATCTTCAAGATTTTCCGCGGACAGTCCCGAGACATGCGTTTAACATGTGAGTG
ACACATCTTAACATGCGTTTCAAGATTCTAGCTCTGGATCTTCACACTGAACAGTTTCGT
GATGTCCCAACACCGCCACACCCCGGAACCGAGCGAGCTAGTTAACCTTGAAGATCGT
CTAGCCTTGGTTAAACAT

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 157>:

gnm_157

25 ACCACAGTAGAAGCCTAAAGCATTGTGCCAGATATCAAATTCAGGAGTATAAAGGAACTG
AACCACAACATGTTGAAAGAAAGAGAATAAAGGTGAAACATTTACCTTTGATGAGGAGAT
TGTAAGTGAACAACAACCGAAGAGGCCAAAACATTGTCAGAGAAGACTACGTAATGGTA
GAGATCAGGATCATTATAACTTTGTTGCAAAAGCTGCCTTTTTTCGTGATCCAGGGTAAA
ATATTCTGTTGTCAACCGCATTGAGAGACAATGAAGCCCTTTTGGGGTAGTCTTGCTGC
AAGCTGCATTAAATATGCTGCTTGTCTTCTGCGCCCGAGCTTGTTCTTCGGTTTTATA
AGTCATGGCTTGGAGTTTGGTAGCAATGGCAGGGCAGTTGTGAAAGGCACGGCTGACCTT
30 GTATAACGCAACTTCCATGGCCTTCAATCTGTTAGGAGAGCTGAAAAGAAACAAAACATT
TGATGTAGACTCGTCTAAATTAACACAATATTCAATTAAGATTTAGCTTCATAAGTAAAGG
CCAAAACCTTTTACAGGATGGAACAGGACTCCCTTTGAATCAATCAGCTGTGCTCACCTC
TTTGGCAAATATTTATCGCTTGGTAGTATCACCAGTAGCCCGTTCCAGCTCTTTCGTTTCG
AACTCTCAACTCGCTTACGATTTGGGAGTTATTCCCAGGTAGGGCCAAATTCAGATAGGC
35 TTTGCTTGGATAATTTTGTCTCTGATCTCGCTTACCCTGTCTGTTGCTCTGTCAAG
TTGAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 158>:

GNMCG68R gnm_158

40 GGGACAATTGTGACTATCCCACCACCATGAATGTGATTTCTTAGTTCATAGACCTCTTAAA
CTGCTTCTTGCTCTGAGCCTGAGAGAACATCAGACAAAAGTGACTAAATGTTAGGACCAAG
AGACTAAACACAAGGATCTAATGAACTTATATAGTGAAGATCACGAAGGTTTCATACCGT
AGACGAAGCCATGACCGTGGAGTGCAGAGAAAAAACCTACAAGAAAAAGATCAAGAAC
TTAAGTCATTTGACAAAACAAAAGGCAATTTGATGTTCAAAGACTATGACTTTCTCGGATG
45 TGCTTGAGTTGAACAAAACATAAGAAACAAATTAGATGAGATAAGAGGAGAAAAGAGGAC

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ACGTGAAGATTCAACAACCCATTTGTACTTTGTAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 159>:**gnm_159**

5 CCCAAAAAATGAGCACCCTAATTATTATTGCAATCGTAGAACGAACCATTAAAGACA
TTTTACACAAAAACATCTCACAAAAGCAAAACAAGGGAATATTTCAACAGATTTACAAA
CATTTATAAAGTCATCTTCATCCTTTTTTTTGTGCAGAAAGTTAACAGTTCCTTGGTTT
CATAACGATTATGGAGTGGTTAAGGATGTGCAAGCTGAATTGTCCACCTTCTCACTAGT
ATCCACTTTAGACTGTCCTGGAGGAGGAAGAAGCTCGAAGTTCTGGACCATCCTACCAAT
10 GGTGATCCCCAAAATAGGCAATGCCAATATAATCCCGGGACAGCTTCGACGTCCAACACC
AAATGGCACATACCTGAAGTCATTACCGTTAGCTTCCACGTGCGATTCTTCTCAAAGAA
CCTCTCTGGTCTAAACTCTTCAGGCTTCTTCCAGCTGTGGGGTTGTTTGTAGCCACCA
AGCATTAACAAGGATTTTGCTTTCTGCTGGGATAwCGTAGCCAGCGAGCTTCGCAtCa9g
AGGTTC

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 160>:**GNMCG72R gnm_160**

CATACAGAAGGAAAGGACGAATAATTGTTTTGGAATTTGCATGCATTTGAATTCGAGTAC
TCATAATCTTCTAAGCGAAAACCTTGCGAAAACCTTTATCACCTATAAAACATTGAAAATAT
20 TGAAACCAAATGGGTGGTCTAATAGTTTGAAGCAATGTGTGGGTCAAAGTCACTAGT
TTAATACTTGAGAGGAATAATTTATGCTCTAAATAATCAACCACAAAATTTTCGATCTTT
CACTCACTCACAGAAAGGAAACAATTCAATTGCTAAAGCGTCATGACTCACGTTGCTTGA
ATCCTTAAATTTTTTTTGTGTTGTTATGGAAACATCCAAAATCTAACATGGTTTATGAAT
TAAGTCGCAACTGATTCATTTTATTATGTTTTTCAGTACTATAACGTGTTACATTTAAGTG
25 AAGGACATCACATATATAAGTATACACAACAAGTTATCTAATCCAAGTCTCAAGAAGT
TTTTATTTAATCAACAAAAGAAGCAAGGCTTAACATCGAGTTCCTCGACTAAGTCTGTAA
AATCCGCTCAATCGGAAGTAGACACAATCACACAATGGTTTTTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 161>:**GNMCG73R gnm_161**

TAATTCCTCTCCCAAAGTTTCTTGGTTCCATACTCCATTAGTTTGTCAAACGATTTTC
AGGTCAAAGGCCAATGATCCATTTTATTTCAATTGCAGTCGAAAAATCCAGTTTTTCATT
AGTCATCCTTCTCCTTGGTGTGGAATTGCAACCGTAACAGATCTCCAGCTTAATATGCT
GGGTTCTGTCTTGTGCTACTGGCTGTTATCACAACTTGTGTTGCCCAAATTGTATCCTA
35 TGCTTATATTCTCTTTCCCTTTCCATATGCTTCTATTAGCCAGTGGTTCAGCTAAATA
GTAGTCTTTTGTGGAGTCGTTGCTGTTATCTTAACCAGTTATATACAGATGACCAATACG
ATCCAGAAGAAATATAAGGTTTCATCCACCCAACCTTCTGTTATCAGTCTTGCCCATATCA
AGCAATCACACTTTTTGTTACTGGCCCATTTTATAGTGGTCTCTTAACCAACCAGAACGT
GTTTGCTTTCAAATACACGTCTCAAGTTGTGGTGAGAATGAAGCAATATATGTGGA

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 162>:**GNMCG73F gnm_162**

GATATATTTCTCTGGTTAAGAATTTGAATGGTTGACAAAGAAACGGTCACTCTATATACT

-650-

TAGAAAATATAGTCATACATAGACACCATCGGTCTAGTTATAATAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 163>:**GNMCG78R gnm_163**

5 ATATTGCTTCCTCTTGCAATCATAATGTAATACATTGCTAAATGTAGAAAATATCTACA
AACAAACACCACAGCGATTCCAATACTAGATATTGGTGACTTCTTGAGTATCATAACTTG
TTTCCCATATATCAATTTAACATTTTAGCATTCAAATTAGTTATGAAGTTTCAATTATT
CTTGCTGGAGATAAAATTTTATTACTAGGCATAAATCAATCACAACGTGATATGTGCATG
10 CTTAGTTAATAGAGTATCTATCGAAAATTCGCTTTTTTTAATTAAAGTAACGTATATCAT
CATCATTATTAAGCGACAAACGAATTTAGACATTTTACCATCATTTACAAGATAATTGGT
GATAGACGAATCATACGTTACTTTATAGATAGTATAAAATAAAATTACGCCAACTCGTCT
ATTGCGCTTGTTTTAGTAACATATGTTAGATGAATTGGCCACGTTGAATCTAATTCATGT
GTGCTTTTTGTAGAAAATCGACAAGTAGATAATTTATTCGTCACAATGACCCAAGATTCA
AACCTAATTGAAATAAAACCTAGTAGTA

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 164>:**GNMCG80F gnm_164**

TATAAGTACTCAAATATAAACTCGAGACGACAAAAAAGTTATGCACAAAGAGTATTATT
GATTGTATATGTTTTAAAGTTTTTTCATTGTCTACCATGTACTATATGGTGATTCCTTTTT
20 TGTATTTAATTATAATGTATGTACTACATCTTCTTTATTGGTACATTGATTATTTCTCAA
AAGCAAAGTTCAAAATTTTAGATGCACGTTCAATAAAGTTACATTAGTATTTGAATTA
AGGTTGTTTTAAAGGGTTTTCAAACAAAAAACAACACGTATGCCGAATTCGTTGGTC
TATCATATGGAGAAAAGATCTTCAATTCGGATAGACCAACCCGCCAATAGTTTGAACAT
TTTGCAAAACATTGCCGATTGTTTTGGACTTTGGGTTTGATAAAGGAAATCCAATTACG
25 ACAAAAAAAGGAAATCCAATTACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 165>:**GNMCG82F gnm_165**

CCCAGGACATTCATTTTCATCAATGTTTAGGATTTGGATTGAAGCTCTGCCACTTGGGTTT
30 AGTAAAAACCACATTGAGATTGCTGGGTAATTGAGTGAATCTGTCACCACATGGAATACT
ATTTTATCCGGTTCCTGCAAGCAGTAATATCATTGTTAAAAGACATGTGGCTTCAGCAG
AGATTCGGAAAAGAGCATTAAAAACACAAGTTTGGATCGGGAATCTTGCAATTAACAAGTT
TAAGATGCTTGCAACATGATTTAAAATGATACCTGAGTTTTGAATTAACAAGTGTAAGAT
GCTTGCAATATGGGGCATAAGTTTTGAATCATGAAAACATAAAACAATGCAAGGTTTCTC
35 AACTGTAATTTAAAAAAGATAAAGTTATTCACTGAACAAAGAGCACACAAAATGTAAC
TCCTTTTCCTAGTTTCATAACTAGACAATATCCTATATATGGTACTAACCACAGTnGn

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 166>:**GNMCG85F gnm_166**

40 CCGCAAACCTTCTGGTCCAGAAAATGGTAAGTATATGCTTGTTATGACTTCCAGCAGTCA
TAATTGGAGTCAGTTTATGAACATTTATTTGCTTTATCGCTCAGAACCATGACATGTAA
TTTCACTTTGCATTTTCTTGTGTTGTCACCTGTTAACGGAAGGAATGCAAGATCTC
GGATGCTGATTTTTACAGCCTTAAGGACAACATGTCCGGAGTAGGTAAGGTCGTCAAAC

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5 CATTATCTATGAATATGGTCCTCTTCTGCTCATGTTGTATGTGATAATGCAGGAAGTTCA
TTTAACCATATAGCAGAACCTACTTCCTCTAAGAGGCAAGCCAGTTTTCTTTGTTTTGC
TTTCATATAATGCCACTGCACAAGTTTTCTTTCTCAGCATGTATATCATCTTGTTATCT
TGCTAACAGAATTGCACATTTTCATAGAAATTTGATGCTTTACTTTCTTACAGGACTTT
GTTTAGTATCCCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 167>:

GNMCG87R gnm_167

10 CTCGGAATTCCATTAGTTCATTCCACGGACAAAAACAGAGAAAGGAAACGACAGAGGCCA
AAAAGCTCGCTTTTCAGCACCTGTCGTTTCCTTTCTTTTCAGAGGGTATTTTAAATAAAAA
CATTAAAGTTATGACGAAGAAGAACGGAAACGCCCTTAAACCGGAAAATTTTCATAAATAGC
GAAAACCCGCGAGGTCGCCGCCCGCTAACCTGTCGGATCACCGGAAAGGACCCGTAAAGT
GATAATGATTATCATCTACATATCACAAACGTGCGTGGAGGCCATCAAACCACGTCAAATA
ATCAATTATGACGCAGTATCGTATTAATTGATCTGCATCAACTTAACGTAAAAACAACCTT
15 CAGACAATACAAATCAGCGACACTGAATACGGGGCAACCTCATGTCCGAGCTCGCGAGCT
CGTCGACAGCGACACACTTGCATCGGATGCAGCCCGGTTAACGTGCCGGCACGCCTGGGT
AACCAGTTATTTTGTCCACATAACCGAGCGCAAAATGTTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 168>:

GNMCG88R gnm_168

20 TTCAGTAAACTTCAGCACGTTTCATCGTCATTGGAAAGACATCTCCTGTCACTTATCAGG
TTCTAGGACATCTAAAAACATGCTTAGTGTTAGCATTGGGTATCTTTTGCTGAAAGACG
CATTACAGCTGGCGCAACATTCTTGGTATTCTTGTGCGCGTGATTGGAATGGTGCTTTATT
CCTATTACTGCACACTCGAAACCCACAGAAGGCCACAGAAACATCAACTCAATTGCCTC
25 AGGTAAATAGTTTCACCTTCCCTTTTGGCACAATGTGACTCAACTTCATTTCAATTATATG
CGTAACGAGAAAAACAAGAGTTGAGAATTGATGTTGTGAATGTGTCTTGCTCAGATGGAT
GAAAACGAGAAAGATCCGCTAGTTAGTGCGGAAAACGGGAGCGGATTGATATCAGACAAT
GGAGTGCAAAAAGCAGGATCCTGTATGGAATTCAAACAAAGATTTTCAAGCGTAGAGCTGG
AGCTCGATATCTGAAATCTGTTGTAGTATCAGATTTCATAGGTTTCCGTTTGTCAACTTT
30 GATATCTCTCTTAGAGAGAATCTACAGCTTCCCTTTCAAAGGAAGGGGGGAGAGGATTAG
AGGAGGAACAGCTTTTTTGTGATCCATTTTCATATAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 169>:

GNMCG90F gnm_169

35 CCTGAATGTGCATGCAGGGGTCCACTTCCAATAGAGAACATCCTTGGAAGATCTGTGTTT
CGGTACTGGCCACCGAGCAAAGTATCAGACACCATATACCACGACCAAGCTATCACAAGG
GGACCTGTTGCAGTTTCATGACAAAAGAAAGTTGGATTTTTCTTAGGATTAAAGCACAAAG
ATTGTGCAAAACAGTCTGGTCAGAATTGGGTAGACTTGGAATTGAAACTCAAACCGTT
ATGATATCTGCAGATACATACTGTATCATCGTTATGGATCGCATCTGGTTCTTAGCTGAT
40 GGTCCGGAAGCCGGAGATGTTACGTGTACAAAAGGAATGGAAGATGCAAAGAAAAGGAAA
CGATTTTACTGTGATTGTTATGTGTGAAAACCTGGAGACAGATACTGTAGTAAAGCCATAA
AGGCAACTGTTAACAAAAGTGTGATTTTTTGTGTTATGAGTTTGTACTATAGAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 170>:

-652-

GNMCG91R gnm_170

5 GGAAGCCAGTAAGGATATACGGCAGGCATTGAAGAGTTTCGCGGGGAAGGAAGTGGTTTT
TTATCGCCCTGAAGAGGATGCCGGCGATGAAAAAGGCTATGAATCTTTTCCTTGGTTTTAT
CAAACGTGCGCACAGTCCATCCAGAGGGCTTTACAGTGTACATATCAACCCATATCTCAT
10 TCCCTTCTTTATCGGGTTACAGAACCGGTTTACGCAGTTTCGGCTTAGTGAACAAAAGA
AATCACCAATCCGATATGCCATGCGTTTATACGAATCCCTGTGTCTAGTATCGTAAGCCGGA
TGGCTCAGGCATCGTCTCTCTGAAAATCGACTGGATCATAGAGCGTTACCAGCTGCCTCA
AAGTTACCAGCGTATGCCTGACTTCCGCCGCCGCTTCTGCAGGTCTGTGTTAATGAGAT
CAACAGCAGAACTCCAATGCGCTCTCATACATTGAGAAAAAGAAAGGCCGCCAGACGAC
15 TCATATCGTATTTTCTTCCGCGATATCACTTCCATGACGACAGGATAGTCTGAGGGTTA
TCTGTACAGATTGAGGGTGGTTCGTACATTTGTTCTGACCTACTGAGGGTAATTTGT
CACAGTTTTGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 171>:

15 **GNMCG93R gnm_171**

TACATAATGCTGAAAAGTTGTACATGTATCAAATTGAAAAATTGATGATGCAAAGTTATA
AAGCAAAAACAAAGTAATGCACACTTACCTAATGTCGAAATCTAGGTTCCCTTTAACTTTG
ATACGAAATCAAATTTTTTTCAAGAATACATACTTACCTAAAGTAAAGTAGACGGTTCT
TTTGAAATTAGATTTTTCCGAAGAAACCGAAAGTATCTTTGTTTAGCCATTAAATCATGT
20 AGTAACATATCTCTATCCTATCGGTAATGGATGAGGACCAAGAGCGAAGTACCATGTACA
AAATTAGTTCAATAAACGTAAAACCTTCAATCAATTAATAATCGATGAATTATTATTTTTT
ATATATTAATAATTTTTTATGACATAAATGATATAAATCAATAAAATAATTTTAAGAAGT
CATTTTTGAAAATTCTATGTAAAC

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 172>:

GNMCG93F gnm_172

TTATTAATTCTTTTTTTGCAGTCTTCATATGCAAATCCGGACCAGTCCCTCTCTAATCGA
AGAAAACAAAGGATGTTGATGAACCATGGGATTCCAAATTACATCTTTGGAAACCTCTAAAT
TTTCTTGTGGATGTGGCAAACGGAACAAAGGACCCAAAATCTGAGCTTGGAAACGCATCC
30 CACAATGATGTTTCAGGGGAGTAAACCAAAACAAAGGATCATAAAAGAAAGTGTAACCTC
GAGGAAGAGATCAGCAATAACGGTGATCCTACAACATCAGAACTGCTACACTTAAACGA
ACGCGTCGGACTCGTCGCAAAAGGTCATCTACTTTTGGTGATTCTAGAATTCCACTGTTA
CCAGGTGCAGCAAGCCTAAAACAGGAGAGGAGAAACGGTCATGTTTGGTTCTCACTTGTA
CGTCAAGTAATCAGTGAGATTCTGTTCTGTATCTGAGACTCTGAGTACTTCTGATATT
35 CAATATTTTCTGTGTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 173>:

GNMCG94R gnm_173

GTCAACCGCATTGAGAGACAATGAAGCCCTTTTGGGGTAGTCTCTGATGCAACTTGTGCC
40 ACATATGGAAGGTTCTTCCGTAATTTTTGTGGCATAGTGTGAAGTTAATCAAGAAAAGTC
ATTTGATTGAGAACGAGTTATGACCTGAATATGTTGGCTAGTTTAACTTTTCGCTGAC
ACCAACAATTTTTTGTAGAACCTGAAACAAATCTCTTTAGTACTACACTCTCTTTACT
AGTTGGTCACAGTAAGAGCTTTGTTGGTGGCGAACTTATTCAATTTTCTAAAGAACCACT
CTTATGTATTTATTTTAGGCCTGACCACATTTTGCAAGACTTGAGAGCCAAATTATTTCC
45 TCTAAAACGTAAAAAGGAGAGAGCGCCTGAAGTTGTGTCCTCCATCTCATTACCTGCAAA

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GAGGAAGGAGAGGTCTATCTCGTCTTTGGTGGTAAGCACACCCAAGGTTTCAGCACAAGC
TGGTACAACAGGAAAAAGAACAAAAGCTGCTACGAGAAAAGATGTAAGAGGTAGTGGTTC
ATTCATAAGAGAACAGTGAAGAAGGAAGAAGAATTTGGAG

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 174>:

gnm_174

10 GCCCATTACGGCAGCAAAATTGCTTTGCGGAATGCTGAAATTGATGTTCTTCAGAATCGG
GCGGTGCGCATACGCGAAGGCGACGTCTTTCATTTGATAAAGGGGGGCAATTGTGGTGG
GCAAAACAAAGCATGGGCGTTACACCGAAAAACGAGCGGTGATTCCAACGTCGTCATG
15 ATGGGCATGGGCGAGCCGATGGCGAACTTCGACAATGTCGTTACCGCCTTAAGCATCATG
CTGGACGACCACGGCTACGGTTTGAGCCGCCGCCGCTAACCGTTTCCACTTCGGGTATG
GTTCCCCAAATGGACAGGTTGCGCGATGTCATGCCGGTGGCTTTGGCGGTTCCCTCCAC
GCTTCCAATGACGAAGTCCGCAACCAATCGTACCGTTGAACAAAAAATATCCCTTGAAA
GAATTGATGGCCGATGCCAACGTATCTGGTCAAAGCACCCAGGGATTTTCATCACTTTC
15 GAATACGTCATGTTGGACGGAATAAACGATAAGGCGCAACATGCGCGCGAACTGATCGAA
CTGGTCACAGATGTTCCCTGCAAGTCAATCTGATTCCGTTCAATCCCTTCCCAAACCTCC
GGATACGAACGCTCCAGCAATG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 175>:

20 **GNMCH55F gnm_175**

TATCCATTTAATGTTCACTTTTGAAATATGTTTTGCTGGTTAAGGAATTTAGGTGAAT
ACATGTTCAATATTTTAAATGTGTTTCTTCATTGTATTCTGGCTTGTGTAGTCTCTGGTG
AGACGCCTACTATATTTGGTATCCTTGCTCTTTTTTACTTATTGTATCTTCTTATCTTG
25 CTGTTTTTAAGATTTTCTTTTCTTTTCTTAGACAGAGTTTCACTCCGGTCTCCAGGC
TGGAGTGCAATGGCATGACCCTTTGGCTCACTGGCTCACGGCCACTTCTGCTATTCTGC
CGCCTCAGCCTCCAGGGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 176>:

GNMCJ01F gnm_176

30 CGTCATTATGGATCTTGAATCCTCTTCTCGGCAGGTTGCAATTAGCGAGTGGGTAGTATC
ACCAACAGCGCGAAATCCGCGTCTGATAATGGATATGTTCTGATATAACGTGTTAGTAGG
CACACGCATACCTTCTTCTTCCAGACTCTGGTGAAAAAATCTTGTTGTGCAACCACATC
AGGAAAAGCTTCAAGTAGAAGTGATAAACATCGACTGGCTGGCGTTGTCAAGACGACGTT
AAGATCGGCGTTATGTACCGATATTAATTTTCGGTGCTCAGGCCAGAACTCGATATTATC
35 GTTAATAATCCAGTACATACGTCAATAAACACTAAATCAATCGAAATGGAGATCACATAG
TTTGCTAAGTATATTGGTATTACGGCATAAAATATATATTAATTTTATATTTATCATGAT
GATTGAAATGAGGCTTTAATGTTGCAACGTAAACTTTACGTAAATTAACATGGTTAACA
TTTATGCCACTATTGTTTGTAAATTCATATTTTCGTAATGCTTCTGAATTTTTTCGTGTGAT
GGTTTTAAATACTATGGTGTTTACTCTTGAGGGGACGGCCTATTTATAAAATACGGACAT
40 TTCAATAAATGCCCGTATAAACAGAGTATGATTCTGGCTGGTCGTTGAGTATCAATGTTG
GACCGAATGTGAACGAGTAAATAAATTCGGGTATTTTACCACCCATTCTCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 177>:

-654-

GNMCJ02R gnm_177

GTACCCCATCTCTCAATAGCGTTGCCGGGCGTCACGATATGGACAGCCTCGCGGAACGATT
GGTTGAAGCACAAAACCATCACTTTTGAAGAGATTGCTGGTAAAGGC AAAATCAACTGA
CCTTTAACCAGATTGCCCTCGAAGAAGCCGGACGTTACGCCGCCGAAGATGCAGATGTCA
5 CCTTGCAGTTGCATCTGAAAATGTGGCCGGATCTGCAAAAACACAAAGGGCCGTTGAACG
TCTTCGAGAATATCGAAATGCCGCTGGTGCCGGTGCTTTCACGCATTGAACGTAACGGTG
TGAAGATCGATCCGAAAGTGCTGCACAATCATTCTGAAGAGCTCACCCCTTCGTCTGGCTG
AGCTGGAAGAAAGCGCATGAAATTGCAGGTGAGGAATTTAACCTTTCTTCCACCAAGC
AGTTACAAACCATCTCTTTGAAAAACAGGGCATTAAACCGCTGAAGAAAACGCCGGGTG
10 GCGCGCCGTCACAGTCGGAAGAGGTACTGGAAGAACTGGCGCTGGACTATCCGTTGCCAA
AAGTGATTCTGGAGTATCGTGGTCTGGCGACGTGAAATCGACCTACAGCGACAAGCTGCC
GCTGATGATCAACCCGAAAACCGGGCGTGTGCATACCTCTTATCACCAGGCAGTAACCTGC
AACGGGACGTTTATCGTCAACCGATCCTAACCTG

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 178>:

GNMCJ02F gnm_178

CCTGACTGACGGAGACGACCGCTTTGACTAATTTGAATTATCAACAGACGCATTTTGTGA
TGAGTGCGCCTGATATTCGCCACCTACCTTCCGATACCGGAATTGAAGTGGCTTTTGCAG
GCCGTTCCAACGCAGGTAATCCAGCGCGCTGAACACGCTGACTAACAGAAAAGCCTGG
20 CTCGTACCTCAAAAACCCAGGGCGCACCCAGCTTATCAACCTGTTTGAAGTGGCTGACG
GCAAGCGTCTGGTTGACTTGCTGCGGTACGTTATGCGGAAGTCCCGGAAGAGATGAAGC
GCAATGGCAGCGTGCCTCGGCGAATACCTCGAAAACGTCAGAGCCTGCAAGGTCTGG
TGGTGCTAATGGATATTCGCCATCCGCTGAAAGATTGGATCAGCAGATGATTGAGTGGG
CGGTAGACAGCAATATCGCCGTTCTGGTGCTGCTGACCAAAGCGGACAACTGGCAAGCG
25 GCGCACGTAAAGCGCAATTGAATATGGTGCCTGAAGCTGTACTGGCGTTTAAACGGTGATG
TGCAGGTTGAAACGTTTTCTTCGTTGAAGAAAACAGGCGTGGACAAGCTGCGGCAGAAAC
TGGATACCTGGTTTAGCGAGATGCAGCCTGTAGAAGAAACGCAGGACGGCGAATAATTTT
CTTGCCCTAATGCTTGTGCCGGATGTGGCGTATCCGGCCCGTAAATTCA

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 179>:

GNMCJ03R gnm_179

CCCTCCCTAGTAGCTAGGACTACAGGCACACATCACCACATCAGGCTAATCTTTTAATTT
TTTTGTATGGGGGGGGGGTCTCACTACATTGCCAGGCTGGCCTTGAACCTCTGGCCTC
AAGCAATCCTCCTTCCTCAGCCTTCCAAAATGCTAGGATTAGAGGTGTAAGCGACCACAC
35 CTGGCCAGCAAGGTTGGGATATTTTAAACAGCCAAAGTATTTCCAGTTCCTCAAGGGCC
TTCATGAAAAACAATTTAAGTCCAAACAGAATTAATTTAACTCACTGTAGTTTAATAA
TGAAGCGCACCGTATAAGAATTTAGAAAGGAAAGTCTGTGCCTAATTAACCTCTGGCAAT
AAAGACAGAGAAGTCTGAAGGTAGAGAGGCTTTCTCATGGTTACCCAGTGTGAGACTCTG
ATTCTGGAGACCACAATTATGCACCAGGCAGAGGGAATTTCTACTATGCATTTGAGACTT
40 TGATTATGATGTTGTATAATGGACATTATGCACAAATCTCAGAGCTGGATTCCAGGAAAA
GATTGATTGGCATTCCCCATCCTCCAGCCCCATCTGCTTCCGTATGTATTCCCCACACC
GAGCTCATTCCCGTCTCAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 180>:

-656-

TCAGCTGCGACATGAAATATCGCTCGCCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 183>:

GNMCJ05F gnm_183

5 CCCAGCTACTTGGGAGGCTCAGGTGGGAGGATCACCTGAGCCAGGGAGGTTGAGGCTGCA
GTGAGCCATTACTGTGCCACAGCACTCCAGCCTGGGTGACAGAGCGAGACCCCATTTAAA
AAAAAATAGTCTTTAAACTAATAATAATACCCTACCTTGCATCTGTAAAGGGCCACCT
TTTCCAAATTTCCCTTCATATGCCAAGCTGTGTAAGAAACAACCTCTTTGAGATTTTATG
10 GGCAGCTACTATTGATTCCACTTTACAGCAAATCTGAAGCCAAGGCCAGGCGCGGTGACT
CACGCCTGTAATCCAGAATTTGGGAGGCCGAGGTGGGTGGATTACGAGGTCAGGAGAT
CAAGACCATCCTGGCCAACATGGTGAAACCAGTCTCTACTAAAAATGCAAAAAATAGCTG
GGCGTGGTGGCAGATGCCTGTAATCCAGCTACTCGGGAGGCTGAGGCAGGAGAATCGCT
TGAACCAGGGAGTCAGAAGTTGCAGTGAGCCAAGGTGCTGCCACTGTACTCCAGCCTGGC
15 CACAGAGCGAGACTCCGTCTAAGAAAAAATCTGAAGCCAAAAGAAGAAAGGT
CACATTTCCAAAATAAGCATAAGAATTTTATCTCATCTAAGCAAGAGACTCTGTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 184>:

GNMCJ06R gnm_184

20 ATGGCTTGTTACTACATTGTGAATATATAAAAAATCCATTGAATTGTAACTTTAAATGGGT
GAATTTTATGTCAATTAAAGCTATTTTTTAAAAAAGACCTATATGAAAACTTGAATTTT
GGGGAGTTAGTTGTATTAAACCAGGCCCTATCCAGTCTTTTTTTTCAAATTAGAGAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 185>:

GNMCJ07F gnm_185

25 CCGGAAGAAAGTGAACCTCTGACTAGAGCAGGGGAACACCGAAGATGCTCCAGTGCAGATC
AGGAAGGAGCAGGGGATGAAATGTTACAAATCTAGAACTCAGAGAGCTGAAGGTAATTA
CTTCCTTTTCAAGTTGTGAAACATGTTAACCTGTGGTAAATACTTATAAGATGATAATT
ACCATCTAACCGTGTTGAAGTGACAGTTCAGTTGTGTGAAGTATATTCATGTCAATTTT
30 TTTTTTGTTTTTTTTTTTGAGACGAGTCTCACTCTGTCACCAGGCTGGAGTGCAGTGGTG
GGATCTTGGCTCACTGCAACCTCTGCCTCCTGGGTTCAAGCAGTCTCCTGCCTCAGCCT
CCCAGTAGCTGGGACTACAGGCGTGCATCACCATGCTCAGCTAATTTTTGTATTTTATG
TAGAGACGGGGTTTACCATGTTGCCAGGATGGTCTCCATCTCTTGACCTTGTGATTCA
CGCCTCGGCCTCCCAAAGTGCTGGGATTACAGGCGTGAGGAACCGCATCTGG

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 186>:

GNMCJ09R gnm_186

CCATGACAGGTCCTTTTTTCTGTCTGTATACAAGATTAGGGGAGTGTTGGTGGGAATA
GTCTGCTCTGATGAGGAGCGAGTCATTCTGGTGTTCTGTTGCTGCGTAATGTGGGAAC
ACATTTTGTCCAGCACTTCTGGATAAAACACAAACCAGGCTCGACAACTCCCCAGT
40 GCCACATCACTTGTTCAATTCAAGAAAGATAGCTGAGGCCGGGTGCAGTGGCTCACACCT
GTAATCCAGCACTTTGGGAGGCCGAGGAGGTGGATCACCAGGTCAGGAGATTGAGACC
ATCGTGGCTAACATGGTAAAACCTGTCTCTACTAAAAATACAAAAAATTAGCTGGGGT
GGTCACATGTGCCTGTAGTCCCAGCTACTCAGAAGGCTGAGGCAGGAGAATGGTGTGAAC

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CGGGGGCGGACTTGCAGTGAGCCAAGATCGCTCCACTACACTCTAGCCTGGGCGACAGA
GCGAGACTCTGTCTCAAAAAAAAAAGAAAGCCAACCTTCAATCACTTCAGCATCCTG
GACAGTTCGAGCACATTGCAGGCATAATAGCTGTTTGAGGGCAATAAATAGCAGTCCTC
AAAGCCATTGAGCAAATACCTGCTTCCCCTCT

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 187>:

GNMCJ09F gnm_187

CCGAATCCTAGCTAGATTGTCCGCCAACATATCTGAACCCCTGGCCTCTTGAAAAAA
AAGAGAGAGAGAGAGAATATAAAATGTACTATACAGGGTTAAATTGACACTTCCTTCTTG
10 AAGTATTTAGAAGTACTAATGGAGAGTTGAAAAGGGAAGCATGATTTCCCTCCCTATGTGG
CAATGTTGTTTAAATGCAATGCAGGACAGCTTCCAGTGCTTCAAGTCTTCCACCTCCTGA
AACACTGATGTGGAGGGGAAACACAGGCCTTAAAGATCAGAGGCCTGAATTCGAGCCCC
TGCTCTGCCACATACTTGCTGTGTACCTTGAACAAATTACACAGCCTCCGTGGGCTTTG
GGGATAAATGTGAGACGGCATAGAGAACTCATCTCCTCTGCTGACTGATTCTGATCCTTT
15 GGTGTGACTGCCTGAGCACCATGTGATGAGCTCTGTGAGGGCTCCATGGAGGGAAAATGC
AGTCATCTATTGGTGATATCTGCTATGGACAACATGAGTTGGAAATTCTGCCAGCCAGAC
TATGTCTTCAAGGACTGTGAACAAGGTGTCTTCTGAAGTCACTTCCAGATCAAAGGACTT
GGTGACTCGTTCCAATGGGACTGGAATACGAGAGGGACTCTATATCATCATGGTTATTTT
CTAAAGGCCCTGAAGAATCT

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 188>:

GNMCJ10R gnm_188

CCCAGGCTGGTCTCGAACTCCAGACCTTGTAATCCGCCTGCCTCAGGCTCCCAAAGTGCT
GGGATTACAGGCATTAGCCACCGTGCTTGGCTTTTGGTGTCCTTCTCGTTAGTCCACAC
25 TCCTGGCCACTTCCCAGGATGCAAACTGGCTCACAAGGATTGGATTAGGACCCATTCCAA
TCAAATAATAAACAACATTTGTTTATTTTGGCTTCTGGATATTAATTTAATTACT
TTGAAACAACATAATTTACTACCAGATGTTTAAACAAGCACCCATTATAATTGCTAAACTG
TGAATTTAGTTTAACTGTGTCTGACCAACTATACAAAACATCAATTTTAATTTTGAC
AAAAGGTAGTAGGCTGGGCATGGTGGCTTATGCCTGTAATCCCAGCACTTTGGGAGGCCA
30 AGATGAATGGATCACTTGAGGCTAGGGGTTTGAGACCAGCTGGACAACATGGTGAAACCT
GTCTCTACTAAAAAAGAAAAATTAGATGGCCATGATGGTGCACACCCGTAATTTTCAGCT
ACTTGGAAGGCCGAAGCAGAAGAATTACTTGAACCCAGGAGGCAGAGGAGGTTGCAGTGA
GCCGAGATCATGCCACTGTACTCCAGACTGGGCTGAGCTACAGAGCAAGACTCTGTCTTA
AAAAAAAACAGCGCAAAGT

35

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 189>:

GNMCJ10F gnm_189

CCGGTATTAGGAAAGAGACAAACCACTTTGTCTTGGGCTGGGAGGGAACAAAACCGTCTC
CCTCAACTCCCTAAAATCAAATTCAGAGAGGACTGTCAAGGTGGACCCATGGAGCCCCAG
40 TCAAGGTCCAGAAACAAGGATTCAAAGCCTTCAACATAAAGTCACCACGAGGCTAGAAGA
GACCAGATGAATGGGCTGGCCTGGTACCTGAGTCAGAAAGTGGGAGTGCGTGGGCATTGG
TCATGGTGCCATAATGGAGACAGTGAGCACAGGAGTTAAACAAGATGGCTCTGAGGCCAG
GTGCCCTGGGTTCAATCCCAGCTGCGTAACCTTTCAGTGGCCTTTTCCAGTTCCCTTACA
CACTCTGTACCTCACATGAATGAACTGGAAAATGAAGACTACAGCACTACTGACTTCAGA
45 GGATTGTTGGATTAAAGTTATTAATTCACCTAGAACACAACCTGGCACATAGTAAGTGTT
AGTAAATGTTGTTATTCCACACCCCTCCCTCCCTTGGCCCCGCGATGGAGGAAGCAGGCT

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AGGACCAGCCCTCGGAGCTGCAGCTGCCCTTCATCCCTCCCTCGGCCTCTCTAACGAGAT
CCTGCTCCAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 190>:

5 **gnm_190**

AAATTTACTCAACCATTTCTGGAAGACAGCGTGGTGATTCTCAAGAATCTAGGACTAGAA
TTACCATTTGACCCAGCAATCCCATTTCTGGGTATGTACCCAAAGGATTATAAATCATGC
TACTATAAAGACACATGCACACGTATGTTTATTGTGGCACTATTACAAATAGCAAAGACT
TGGAAACCAACCCAAATGTCTCCAATGATGGACTGGATTAAGAAAATGTGACACATATAC
10 ACCATGGAATACTATGCAGCCCTAAAAAGGATGAGTTCGTGTCCTTTGCAGGGACATGG
ATGAAGCTGGAAACCACCATTCTCAGCAAACATCACAAGGACAGAAAACCAAACACCGC
ATGTTCTCACTCATAGGTGGGAATTGAACAATGAGATCACTTGGGCACAGCAAGGGGAAC
ATCACACACCGGGGCTGTTGGGGGGTGGGGGGAGGGGGTGGGGATAGCATTAGGAGATA
TACCTAATGTAAATGATGAGTTGATGGGTGCAGCAAACCAACATGGCACATGTATACCTA
15 TGTATCAAACCTGCACGTTGTGCACATGTACCCTAGAACTTAAAGTATATTTAAAAAAA
AAAACCTTCCCTTTCTTGAATGTAAATTGGTTCAACCATTGTGGAAGACAGTGTAGCGAT
TCCTCAGAGATCTAGAACTAGAAATACCATTTGACCCAGCAATCCCATTATCGGGTATAT
ACCCAAAAATATATAAATCATTCTGTCACAAAGATAAATGCACACATGATCATTGCAGCA
CTAATCACAATAGTAAAGACATGTAGTCAACCCAAATGCCCATCAATAATAGACTGGATA
20 AAGAAAATGTGTACATATATACCATGGAATACTATGCAGCCATAAAAAATGAACAAGATT
ATGTCTTTTGCAGGGACATGAATGGACCTGGAAGCCATTATCCTCAGCAAACCTAACGCAG
GAACAGAAAATGAAACACCCCATGTTCTCACTTGTAAAGTGAAGCTGAACGATGAGATCA
CATGGACACAGGGAGGGGAACAACACACACTGGGTCTATTGTGGGGGTGGGGTGGGGGA
GGGAGAGCATTAGGAAAAATATCTAATGCATGCTGGGCTTGATACCTAGGTGGTGGGTG
25 ATAGGTACAGCAAACCCATGGTACACGTTTACCTATGTAACAAACCTGCACATCCTGC
ACGTGTACCCAGAACTTAAAAATAAAAATACCCCCAAACACACTCCTTAGGTATATGT
AACTATTTTCCCGGGTAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 191>:

30 **gnm_191**

GTAAACCAAAATTCGAGGATTGTGTCTAGGACTTGAAGGGCCATAGGCATTGCAACCACCG
CCAACCTCCCTCCTTTTACTAATCGTAGTGCTTTATGGCCATAAAGCACTCTTTCTAAATC
TAAAAATGATTTAGAAGAAGGAAAAGACCAATATGATGATAACAATGTGGGAGATTCCCTT
TTATCTTTTGTAGCCAAATGACAGTAAGGAAAACAGACAGTATGCTGACCTCATCGTTTC
35 TCTAGGTTGCCAGTTTTTTTACTAAGATGTATATAAATGAAACCCCTTTTGCTCTGCAGG
CTATTATACTATTCCCTTTTAAATTCAGCATCTCTCCCTCCTCCGTTTCATGCAGATTGTG
GAAGAGAACATCATTGGGAGAGAGAGTTTATTGGTTACTGCTCACCTGAGTAAGCAGTAA
GCCCCAGTGGCAGAAAACCCATTCAAACCTGGCTTGAAGCAAAAAGGGAATTATTGGAAC
ATGTAATTGAATAGTTTTAGGTGTAGGGCTGACTTCAGACGCAGCTGGATCCAGAGACTC
40 AAATGATGCCATCAGAAACATCTTTGGCTCTTTGTCTTATATGCTGAAAACCACTGAATT
GTGCACTTTATTTATGTAATTTTTTTTTTTTGGAGACAGAGTTTCACTCTTGTTGCCAG
GCTGGAGTGCAATGGCCCCATCTCGGCTCACTGCAACCTCCACCTCCCAGGTTCAAGTGA
TTCTCCTGTCTCAGCCTCCCAAGTAGCTGGGATTACAGGTGCATGCCACCACGCCTGGCT
ACTTTTGTATTTTTAGTAGAGACAGAGTTTCATCATATTGGTCAGGCTGGTCTCAAAC
45 CCTGACCTCAGGTGATCCGCCTGCCTTGGCTTCCCAAAGTGCTGGGATTACAGGTGTGAG
CCACTGCACCCGGCCCAATTGTGTACTTTAAATGGGTGAATTGTAAGGTGTGGGAATTAT
ATCTCAACAGAGCTGCCCCCACTTCCCCAAAAAGGACCAAGAGGTGAGGAAGTGGAGAC
AATAT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 192>:

gnm_192

5 CATGTCAAAATCCTAATCTCCAAGGTAATGGTATTAGAAGGTAAATCTTTGGTAGGTGAT
CAGGTCATGAGGGTGGAGCCCTCATGAATGGGATTAGTACCCTTATAAAAGAGAACCCAG
AGAGCTCATTTGCTGCTTCTGCCATGTGAAGATACAGTAAAAAAGAAGCAGGCCCTTGC
CAGATACGAGTTTGCCAATGCCTTGATCTTGGAATCCCAGCCTCCAGAACTGTGAGCAG
TAAGTTTCTATTGTTTATAAGCTACCCAGCCTATGGCATTGTTTACGGCAGCCTGAATG
GACTAAGACAGTCTACCTAGACCATTATTTCCCTTTCATCATCCACCAGCCAATTCCAGC
10 ACATCTTTTAGATCTCAGCTTAAATACTCCCTCCAAGACCTCCCTCTATCTCTAATATGA
ATGAAATCCATATCTCAAGTTCTTCACAGAATCCTCTACTCTTTCCTTCATGGCATTGTT
CATAATTTGTAATTATATATCTAGCAAAGTTCTTTGTTGTTAAACATCTACCTCCTCCAC
TCTCTAGAAATCCACAAGGACATCCCTGCACCCAGTGCCTAGGCAATGCCAGACACAT
AGCAGATGCTCCATTAATTATCTGTGCAATGACTGAATGGCTTCCAAGTTAGTTAACTGG
15 GCACCCTTGATAACAGATTCTGGCCTATTTGAAGGATCAAAGAAGAAAGTGGTGCTACCT
TCTCCCTGCCACTATCTTGCCCACTTGTGGTGCCAGTTTCAGGAGGTTTGAATGGATGT
GGCTAATGATAGACGTAGACCTATTGCCTTCTTGATCATAATTCTGCCAGGCTCTGAG
TCCATGTGGCATCGATGGCTAATTGTCTCTCCAAATTTATCCTCTCTTCTCCATTTATA
CCCTCCCATGGAGTTTTTAACAGGGCATGTGGTCACCTACTGGGATCTCACTTCTCAGCT
20 TCCCTTGCAACTGGATGTGGCCTTGTGACTAAATTCATGAACAGAATGTGAGTGCAAG
TGATGTGTCAGTATCTTCATCACTTTCCTAAAAAGGGAAGTGTGGTCCCTCCACTTCCTC
TCTTTCACCCCTCCAATGAGCCAGAACATGCATGTGATGCTGGTGAGTCAGCTTCAGTCA
CATGAATAAAAACAAATCCAGGAGATGACTAAGCAATAAGACAGAAGGAACCCAAGTCC
CTAGACGAGTTCACAGAACCAAGCTACCTATCCAACCCTGGGCCCACCTGGATTATAACA
25 TGAGAAAAACATAAGTCCTAATCATATTTTTGAAGCACTGCATTTAGGGCTTCTTTGTG
ACAGCAGCCTACCCTCTAGTCTAATCAATATACCTCACCAAGTCTCCTGCTCCTAAGGGA
GACAAAGAAGCAAATGAGTCTCAAACATCATCCAATGGAATAGATACAGACCTGTAA
TCCCAACACTGTGGGTGCCAAGGCGGGTGGATCACTTGAGGTGAGGAGTTTGAGACCAA
CCTGGCCAAATGGCAAACCCCTGTCTCCACTAAAAATACAAAAATTAGCCGGACGTGGT
30 GTTGTGCACCTGTAATCCCACCTACCCACGAGGCTAAGCCGGGAGAATTGCTTGAACCCA
GGAGGGGGAGGTTGCAGTGAGCCGAGATCATGCCACTGCCTCCAGCCTGGGTAACAGAG
TGAGACTCTGTCTCAAAAAATAAATAAAAAATAAATAGACCATTAAATTAATAGA
TATAGCCTTGGTCTGTGACCAAAGCTCAGAAATGTTATGATATTCCTTTCTATGTCACCT
CAACTTGCCCTGTCTCAGACAGGACAAATCCCCACTGGTCCCTTGCACTCACAGCTG
35 TTACATTTGAAATGGGAGCTTAGCCTTCCCTGCCCTGGTTCCTCTTAGACTCATTGCGG
AAAACAGGAAACGTAATTATTTCTGCCATTACCTTTATCTCATGGAGCCTGACAGAGTGT
AACCAATGGTAGGAATTAAACACTCTAATTGCCAACTCACAACAACTCCCGAAAAAAT
CATTTTAACTCATTATACATATTAATTTATGACATGCTTAATGTCCAAACCTAATAGATT
CAGTACTCAGGAAATCCCTTATACAGGTAGACACGGGTAC
40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 193>:

gnm_193

CTTAGATTAATGGGCAAAAAAGTTACAATCATGGGATGTTTGGCTTCCCTATAAAGACTA
ATGTTTCATAGATTGTTTTTCAAAATGAGGACTCCCCACTAAATGGGTCCAGCTACACAC
45 ATGGTCTGCAACACGACTCAGATAAGGGGACCTGAAGGCTAAACTCTTAACACTTTTC
TCAGTTCTAAATTTCTTCTAAGGGGAGTAGAGGAAGTCACACCCAGGCCAGAACTAAC
ATTCCACTGATCTCAAATTTTATAGACAAGGCTTCTCCTCCTAAGCCAATTACAAATCAAw
ACATCTTTAAATCTACCTTTGACCCATGGGTTCCTTCTGAGACGTCTGCCTTTTATG
GTCAAACCAATGTAGAGCCTCCCATATATTGATTTATAACTTTGCATGTAACCTCTGCCT
50 TCCTGCAATTACAAATCCTTACCTATAAGCCATCCGGGAGCTTGGGACTTAAGCATTAAC

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TAATTATCTTTGCTTGGTGCCCTCCAATAAATACCCACTTCCTCTTGCTACAATCCCA
ATATCAATGTTTGGTTTGTGTGCTGGGCAGGGGACCCAAGTTAGGTTCAAGTATCAGC
AAGAAGGCAAGACAGAGTGTGTGCTAGCAAGACAGAAGTCCGTGTGTTGGTAACCTAAT
CTCAAAGTAAATGCCATCACCTTTGCTGTGTTCTACTGATTAAAGCTAGTCACCCATA
5 TGTTCATTGCAGCACTATTACAAAAGCAAAGACATTGAATCAACCTAGGTGCCCATCAA
TGGAGAATTGGAAGAAAGAAATGTGGTACATATATACCATGGAATACTACACATCCATAA
AAAGGAACAAAATCATACCTTTGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 194>:

10 **gnm_194**

CCCTTTTCTCGGTGGAATGTGCTTCTCCTTCATACATGATATAACTTGATTGACAATG
TCACAAAGATATTTCTCTGTAGATTAAATTTTGTTCATGAATTTTCAATAGCTT
TAAGCAGTTGAATAGCAATATATGCAGGAAGAAGCTGAGAGACTTATGTAATAGATATTT
CATGTATCTATAACCCACACTGCTGCCAGGAAATGTGCGCTGCATTAATAGAGAGGATT
15 TTTTCTGCTGAATACCTTGAGGAGTTGGCCAACACGTTTGGGAGTAGAAGTAGAAAGGG
CCAGGTGTGATGGCTCATGCCTGTAATCCCAGCACTCTGGGAGGCCAAGTGGGAGGATT
GCTTAAGCCCAGGACTTTGAGGCCAGCCTGGGCAACAGAGTGAGACTCCATCTCTAAGA
AAAAAATCATAAAATTAATAAATTTCTCTGCCAAATGGACACAGAAAAACTGACAATC
CAGAGAAAGATAATATGCAATGAAGCTAGACATGGCCAAATTAGAAAATGATATTGAGAG
20 AGAACAAGAGCAAGAAAGAGGAGCCCTCAGCATTGAGAGGGCTGAGGAAGCACAGAAATG
ACTGATGGGTTGGTTAGTTAGTTACTTTTTGTGAAGTGTGCAATGTAATTTCACTTTGG
TCTCCCCACCGAATCATCAACTAAAGTCTACACTGCTATATCGGCTATCTATTGCTGTG
TACAAATTATTCCAAACTCAGTGCTTAAACACACATTTATTATCTCACAGTTTCTGT
GGGTTAGGGATTCTGAAGATGGGCCCTGCTTCA

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 195>:

GNMCJ15R gnm_195

CCAACCAACATGTACAGTATCTCATGTACACAGTCTTCTAAGGATTGACACTGAGGTTGC
TTCTGGATTTTGAATTACAGATAGTGTGGATACAAATCTTGCAAATATACCTTGCA
30 CGCATGCATGAGAATATCTGGAGAATAAATTCCTAGGGTCTAATTGTGGGTCTATTTAAA
TTTTGCATAAAAATTTGATACATGTTTTCTAACCACTGCTCCTCCCAAGAGGTTGCACC
AGCTTACAGTCCCACCAATCAGGGAAGAGGATTTATTTTTTTATTTTTTTTTTTGGG
ACAGGGTCCGGTCTTGCCACCCAGGCTAGAATACAGTGGCGTGATCATGGCTCATGGCAA
CCTGGTCTTCCCCAGTTCAAGCAATCCTCCCGCTCAGCCTCCCCAGTAGCTGGGATGAT
35 AGCCGCATGCCACCACCCAGCTAATTTATATTTTACTTTTTGTAGAGACAGAGTCTCA
CTATGTTGCCTAGGTGGATCTTGAATTCCTGAGCTCAAGCGATCCTCCCACTTTAGCCTC
CCAAAGCTCTGGGATGACAGGTGTGAGCCACCATGCCCTGCCTGAGAATTGTCTTCTCAC
ACCCTTGTTAATAGGACTATTATCACATTTTAAA

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 196>:

GNMCJ16R gnm_196

GTACCCGTTTCTTTTGGTGCCAATCTTGAGCGCGCGTAAACCAGCTTCTCCGCGCTCTTC
ATAGACCTTCAGCCACCTGGCTACAGAACCCTACCAGCAAGCATAAAGTGAGCAGCAGC
CTGATTAAGGGACATGTGCTGCTCGATCACAGCTTTCACGACCTTAATACGCAACTCTGG
45 ATCAGCACTAACGCCTTTAGGTTTGGGAATTAACCTTTTTCTCCATGTTTTTTCATAGAG
GGCAACCCATGTCTGACCTGGGTTCTGGGGACACCAAAACGTGCCGAGATGATCCTGTA

-661-

5 ACCATCATCAGTTGTGAAGTAGTGATTACGACTTCAAGGCGCTTTTCAAAGGGTATTT
TGGCTTTGACATATTAGGGGCTATTCCATTTTCATCGTCCAACAAATGGGTGCAGTACAC
TGGAGGGGCTATCAGTACACTACCTTTACGCCCCGCCACCTCGCGTCTCGGAAGCCTTAAT
GAGCGCCCTGGCGAGACCCGCGAGCAAGGCTACGCCCTGGACAGCGAAGAGAACGAGCAG
GGCGTGCGCTGCGTGGCGGTGCCGGTGTGGAACACGAGTCCCGCGTCATCGCCGCCCTGA
GCCTGTCGACGCTGACCTCCCGCGTGGACGACGCGGAGCTGGCTAATTTACGCGAGCAGC
TTCAGCAGGCCGGGCTCGCGCTCTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 197>:

10 **GNMCJ16F gnm_197**

CCTGGATCTAGGCGTACGTCAACTATTCCGCCAGCAGCAGCGTGCAGCCGGTTGAGGTGC
TCACCACCATCAAAATTCGTCTGCGTGGTGCCGGTGGTGCTCTACCGGGCATGTTCA
TCATGCTGTGCTCTACAAGCTCACCGATGCCCGGTGGAGGCCATCAGCCGGCAGCTGA
TTAAGCACCGCGCGGCGCAGGGCGAGGCCGTTCCCGACGCCGCGACAGCGCATCCCATTA
15 ACCGGAGGCAATATGGAAATCACTAACCCGATACTACCCGGCTTCAACCCGGACCCGTCC
CTGTGCCGCCAGGGCGAGGACTACTACATCGCCACCTCGACCTTCGAGTGGTTCGCCGGC
GTGCGCATCTACCACTCCCGTGACCTGAAAACTGGTTCGCTGGTCAGCACCCCGTTGGAC
CGCGTGTGATGCTGGACATGAAGGCAACCCGGACTCCGGCGGCATCTGGGCGCCGTGC
CTGAGCTACGCCGACGGTAAATTCTGGCTGCTCTACACCGACGTGAAGATTGTGACTCG
20 CCGTGAAAAACGGCCGCAACTTCTCGTCAACGCGCCCTCCATCGAGGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 198>:

GNMCJ17R gnm_198

GTACCGCGGATTATTGTTGGTTAATGCTGGTGTTCGGTACTGAACCACCAGTTGCCATGT
25 CTGAACTTAATAAAATCGCTGATCGACTTGGCGTACGATTGCACAATCACCAGTACGCC
AAACATGGCGGGCGTCATCCCTTTACCGGCACACGAGAGCGCCAACAGACCCAGCAAGGC
GCTCAGACATTACTGGAGCCTAACGAGGCGCTATTGCGAATAATGGTGCGAAACGCGCC
ATCTGCAAAACCAATGTTTGTGTTAAAACCCGCCAATTCAGCCTGACCTTATCGTTGATA
GTAAAAGTATCCCGCCAGCCTTAAGTTAAACTTCGGCGGTGAGAAACGATGGCAACCAG
30 AGAAACCGCCTTCTGTGCCTGTTCCAGCACTTCGCTGTAGGGCGCTCTGGAATCAATCTC
AAGAATTTTGTGCCGTTATAGCCAATCTTCGACATGACACCGATTTTGTCTGCGAGCTC
GGCATAGTCATGGTCAGGCTTGGGGAGATGGCAGTCTCAATATCAATGCCAGGCGAAT
AATTAATTCGGGGCGATATTGCCCATTTGTTGGTATAAACGCCGTTTCGCGCTGCGCCAG
AAACATGCTGATTTTCCCGGTGCGACGTACGACGCCAATCCCGGTCCATCATAATAAAA
35 GCCCGAAATTTACGCTGCGGGAAGCGATCGCTGACCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 199>:

GNMCJ17F gnm_199

CCGGATTTTCCCATCAACGGTAATTTTGTCACTGCACGACCGACATTTCCGGCCTGTTTT
40 CCTAAATGAACTCTTTCCGCAGCACCATATTTTCGACAACGGTAATAAGATGTTACAC
ACCGTTGACTTGCTGAACCATCGCTACCAATAACGGCAATTAATGGAGGTGTTATTGAC
TGCATGAATATATCCTTTAATTTAAATATCCATTAAAAATATTTATTTGGTTAATATGTT
TTTATGAAAGCGTAATTCAGGTCAATGTCACAATTAACCATGTCACAATAAGGTTGAAC
GGATATTCTGAGCACGGACCGTAATATTCAATACATTATTTACTGCCGGGTTTTTCGT
45 GAATCAACGTAATATGTCAATAATTAATTCACGCCAGGCGTGTATTGCCATTGTAGGA
TGTGATGGTTACGGTAAATCGACCCTCACGGCAAGCCTGGTAAATGAACTGGCAGCAAGA

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ATGCCAACAGAACACATTTATCTCGGGCAATCGTCCGGGCGAATTGGCGAATGGATTTCA
CAGCTCCCTGTATTGGCGCACCTTTTGGGCGTTATCTGCGAAGTAAAGCGGCACATGTG
CACGAAAAGCCCTCAACACCGCTGGCAATATTACTGCACTGGTTATCTATCTGCTTTCC
TGCTGGCGGGCGTACAAGTTTCGCAAAATGTTGTGTAAGCCAGCAAGGCTTTCTGCTC
5 ATCACCACCGCTACCCGCAAGTTGAAGTGCCGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 200>:

gnm_200

GTACCGGCGCTACCTGGCTCAAGTCCGAGCTGTGAACACTGTACGATCGCACTGACAAAA
10 CTCATAGTGTACAGTTTCCTAACGCCGGAACCTTACGAATTTCTGTGGTGGCGATACGG
ATCATACGTTTCAGCCGTCATATGGCGTGGAAGAGCTGCTGCCAGTTGCTCTTTCATTGAT
GGCTGGTTAATAAACTAATCACGTCGCTATTTTAACTGCTGCTGGTGACGGTTTCCC
TGAGTTTTTGCAGATCGGCTTTTGCAGATTGGTGGTTGCTTAGTCATTTGCATATTCCTT
AGCCCAGCGGGGCGAGTGATAATGTCTTAATAGCTGGCCATTATCGGTATTCAGGCAGTC
15 AGACAGGGTTTCGAGATTGCGGTGATATTCCTGTTGACCTGCCAGTWTGCTTCTTCGCC
CATCATGAAAAATTTCAACCGGATAACGTCGCCATTCAATAGTTGTGCTGGCAACCGAAAA
AACGAAAGTTGGCTGCACTCCAACTGTGCTTCATAACCGTCACTGTAGAATGCATCCTG
AACGTGATAGCGGTAGTCGTAATAAGCGGTTTGAATCGTTGAATATCCGCCGTAGTTTT
CACGTCCATGATCCAGTGAAATTCAGGGATAATTTTGTCCGGACGGCACCGACACAAAAAT
20 TCCTGTTTCAGGATCTTCCAGTAAATTGATGATTACGCGTGTCCGGCGCTTTCAACAAG
CCATTGCCCCAGCGGCAAGCCATAACGCTTTGATACATGAGTACAATTTTCCGCCCTTC
TTCCGCAGTGATAACCGTTTTCCTGTGCTTGCGCATTCATCAGAAACGCTTCTCTTC
TTCTTTCCGGCGTTTGTACGGCGGTTAAATTCAGGTGCTACGATAAAGCGGTTACTGAA
TTCTTCCGG

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 201>:

gnm_201

CTGCCACGAATTTTCTGTGCTTAATGACCTGCCCGCTGAAGGTGAGATCGATTTTACCT
GGAGTGAACGCTATCAACTCAGCAAAGACTCCATGACATGGGAACATAAACCGGGAGCAG
30 CACCAGACAACGCTCACTATCAAGGCAATACCAACGTCAACGGCGAAGACATGACTGAGA
TTGAGGAGAATATGCTACTCCCAATTTCTGGCCAGGAAGTCCCATTCGTTGGCTTGCTC
AACACGGCAGCGAAAAACCGGTAACGCACGTTTACGCGACGGACTCCAGGCATTACACA
TTGCTCGGGCTGAAGAACTACCGGCTGTTACTGCCCTGGCTGTTTCCACAAAACCGCC
TGCTCGACCCGCTGGAAATTCGCGAATCCACAACTGGTTGCTGACACTGACAAAGTTT
35 TCCCTAATCCTGGTAATTCAAACCTGGGACTGATACTGCTTTTTTTCGAAGCATACCTGA
ACGCTGACTACACCGATCGAGGACTGCTGACAAAAGAGTGGATGAAGGGTAATCGTGTTT
CACACATCACTCGCACGGCTTCCGGTGCTAATGCTGGCGGCGGAAACCTCACCGATCGCG
GCGAAGGTTTTCGTACAGATCTGACGTCACTGGCGCGGACGTAGCCACTGGCGTACTGG
CCCCTTCAATGGATCTGGACATCTATAACCTTCATCCGGCACACGCTAAACGCATTGAGG
40 AAATTATCGCTGAAAAATAACCGCCCTTTTCTGTTTTCCGCGACAAATTCATCACCATGC
CTGGCGGGCTGGATTATTCGCGGCCATCGTGGTTGCGTCCGTAAAAGAAGCACCATTG
GGATCGAGGTATCCCCGCGCACGTCACTGAATATCTGAACAAAGTACTGACTGAAACCG
ATCATGCCAACCTGATCCGGAAATCGTGGATATTGCCTGCGGTGCTCCTCTGCCCCGA
TGCCCGCAGCGAGTAACAGAAGAAGGAAAAACAGGATGATGAAGAAAAACCGCAACCATCTG
45 GAACAACGGCAGTTGAACAGGGAGAGGCTGAAACAATGGAACCGGACGCAACTGAACATC
ATCAGGACACGCAGCCGCTGGATGCTCAGTCACAGGTAAATTCGTTGATGCGAAATATC
AGGAACTCGGGGCGAACTCCATGAAGCCCCGAAAAACATTCCATCAGGAAATCCTGTGCG
ATGACG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 202>:

gnm_202

```
5  CCGTGTTCATCAAATGACTGGCCTGTTCAAGGACCCATTGACCCAGCAATGTGTGGTT
   ATTATGAAACCAGAGGCAGAACGAGCTTTCTCTCTTTACCTAGGGGGCTGGGAGTATTT
   CAAGTGTCTTCCGATTTTTATAACCCGCGAGTCCTAGAATTAACCCCGACCCCACTGCCA
   TTTACTCTCTCAATGTAGAGTTGCTTTGAGTAGGTAACAGCTTAAATTCTTAGAAAGCTG
   AGCCCCCTAGAGGAAATTTCTAAGGTCAAGCACTCATTTGCAACTTTTTATTGCTAAAA
   ATGTAGAGAAGGGAGAAGTCAAGAATAACACTGCTAAAAGGGAATTTATTTTATTTTAT
10  TTGTTTATTTATGAAATGGAGTCTCGTTCTGTCGTCAGGCTAAAGTGCAGTGGCGTGAT
   CTCAGCTCACTGCAACCTCCTTCTCCAGATTCAATTGATTCTCCTGCCTCAGCCTCTTG
   AGTAGCTGGGATTACAGGCACATGCCACCATGCCTGGCTAATTTTTATATTTTATAGCAGA
   GACGAGGTTTACCATGTTGGCCAGGCTGGTCTTGAACCTCTTGACCTCAGGTGATCTGCC
   TTGCCTCAGCCTCCCAAAGTGCTGGTATTACAGGTGTGAGACACCGCACCCAGCCTAAAA
15  AGGAATTTAATATGGACAAAGAGTACGATCCACAAAGGAGAGACAACTTTATGAGCCCTT
   TTGAGCACAGCATAATACTGTCTCAAAATATAGAATGTGCCGGCTGCCGTGGCCCATGCC
   AGTAATCCCGACCACTTTGGGAGGCCAAGGCGGGAGGATCACTTGAGCCCAGAAGTGCAAG
   ACCAGCCTGGGCAACATAGTGAAACCTCATCTCTACAAAAAATTTAAAAATTAGCCAGG
   TGTAGTGGTGTGTGCCTGAGGTCTCAGCTACTTGGGAGGCTGAGGTGGGAGGATCACTTG
20  AGCCAGGAGGTGAGGCTGCAATAAGCCATGATCACACCACTGCACCCAAGCCTGGGTA
   AAAGAGTGAGACTGTGTCTTGGCCGGGCGCAGTGGCTCACGCCTCTACTCCAGCACTTT
   GGGAGGTGAGGCGGGTGGATCATGTGAGGTGAGGTGTTCAAGACCAGCCTGGCCAACAT
   GGCAGAAACCCGCTCTCTACTAAAAATACwATAATTAGCTGGATGTGCACATGCCTGTAAT
   CCCAGCTACTCAGGAGGCTGAGGCAGGAGTATCACTTGAACCCGGGAGGCTGAAGTTGCA
25  GTGAGCTGAGATTGTGCCACTGCACTCCAGCCTGGGTGACAGAGCGAGACTCCATCTCAA
   AAAAATAAAAAATAA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 203>:

gnm_203

```
30  CCCAGTCCTGAGTATTTAAATGTTTCATTTCTGTGCTGAGAGACAGAATTAGCACTTGA
   TAAGGTTGCATAAAATGCCTGGCACACAGGAGATGCTCAGAAAGCATTTATCCTTTCACC
   CAGCTTCATAACCTCTTCATAAAAAAAGTTGCAGACACCTCTCCTCACATGCACAGAGAA
   ATATGGGACTATTCAAAGAGATGGACCAGCCACCTCCCTCCCTCCCTGGGTGTTTTGCT
   GCTCAGAGAATTCTGATGCTTAGATCACATCTTGGGAAAGGGCTCCAAGGCCAGAGCTC
35  ATGCGCTTGCTGTGGATGGTGGAGGTATTCCTCATGTTAAAGTTGGAGGAGCTGATCCT
   CTCCAGAAACGCCTGGGCCAGCTCAGGTGTGATGTCATAGACCATGTCCAGCTGCTTGGT
   GCGTGTGCATAGCTGATAAACAGCCCAATCTAGTTGGTGGACAAGGACGAGAATATCAG
   TGAGGAGGGTGAAGTGGCCAGTGTGGCCCCACCCTGGTGGTCTGCACTGTGCCCATC
   ATGGACACTTGGATACACCTCCTGGTTCTCATTGTGATTGATGTCTTTTTTTCTTTCTT
40  TTTTTTTTTTTTTTTGAGATGGAGTCTCACTCTGTGCCCCAGGCTGGAGTGCAGTGACAT
   GATCTCAGTTCAGTCAACCTCCACCTCCTGAGTTCAAGCAATTCTCCTGCCTCAGCCTC
   CGGAGTAGCTGGGACTACAGGTGCCACCACACGCTTGGCTAATATTTGTATTTTATG
   AGATATGGGGATTACCATGTTGTCCAGGGTGGTCTCGAACTCCAGCATCAAGTGATCC
   ACCCGCCTCGGCCTCCCAAAGTGCTGGGATTACAGGCGTAACGACCATGCCTGGCCTCAT
45  TGTCATTGATTTCTTAGTGGTCTGTAAGTCTACTTTAGTTTCTCCTCAACCTAACTAT
   TCTTTAGGAAAGAATTATTTTTTAATATCTGAGAACTGGGCTTTTTAAAGCTAATCTT
   TGCACATTTATTTCTAGATTTGTTATATGGAGGTGAGAGAATGTGGTCCACAACTTTCT
   GCGTTGAAGAA
```

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 204>:

gnm_204

5 CCCTGGAATAGCATAGTTAGGAGTGTGGGCCCAAACCTGGATTTGAATCCTAGTTCATCA
CTTAGTTGTGTGGCTTGAGACAATTTGATAAATTTTCTTGTGCCTCAGTTCCCTTTATA
TGAAATATGGTTAACAACGTGAGATTAAAATTTGTTACACATGAAAATTGCGTAAGAC
TGTGCCCAACACACAGTAAATGCCATGAATAGCCTTTTCTCATTTTTATTTTTTTTTT
GGAGACAGAGTCTCACTCTGTTACCCAGGCTGGAGTGCAGTGGTGCAATCTCAGCTCACT
10 GCAACCTCCGCCTCCCAGGTTCAAGCGATTCTCCTGCCTCAGCCTTCCAAGTAGCTGGAA
TTACAGGCGTGCACCACCACATCCAGCTCATTTTTCTATTTTGTAGATACTGAGTTT
GCCATGTTGGCCGGGCTGGGCTGGAACCTCGGCCTTAAGCGATCCTCCTACCTTGGCCT
CCCAAAGTGCTGGGATTACAGGATAAGCCACCATGCCAGCCTATGAAAAGCCTTTTGTA
ATCTTACGTTTGCTTCTTTGTTTGTGTTGTTGTTGTTGTTGCGATGGAGTCTCACTCTGT
TGCCAGGCTGGAGTGCAGTGGCTCAATCTTGGCTTATCACAACTCAGCCTCCCGCGTT
15 CAAGTGATCCTCCTGCCTCAGCCTCCTGAGTAGCTGGGACTACAGGTATGCACCACCATG
CCTAGCTAATTCTTTGTACTTTTAGTAGGGACAGGGTTTCACTATGTTGGCCAGGCTGG
TCCCGAATCCTGACTTCATGATCCGCCACCTTGGCCTCTCAAAGTCCTGGAATTATAG
GCATGAGCCACCGCGCCCGGCTGTAATCTTATAAAGAGATGGATGGATGGATGGATGGA
TGGATGGATGGATAAATTAATAAACAAATAAAATACTTAGACTGAAAGAATATATCCAAA
20 AGTACCCATTGGTGTATCTTAGGGAAAGGAGTGGTTATGGGAGTCTTCACTTTAACAT
AACTGGGTATCCCTGATATGAGGCCCAAGACCCCTATTTCTATCGATCATAGTACTCA
TCATATTAGAATTGTTTATTAATATTGGCGTTTCCACACTACCTAGTTCCTGCCCATG
TCCCTGGTATCTGTCCG

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 205>:

gnm_205

CCAACTAAATTGTTTGAGCTGCTGTCATCTGGGGGTCTTTTGTATAGCAGCTCAGCC
TATATCCTAATATACCATGTCTCCATCAAAGGTGGGAAAATGAAAGAAAGACAAAATAGC
30 TTATATCATGTTTCAAGAAAACTGGACAGAACCTTTTCCTTGAGAAGCAAAGACTAT
CTCTACATCCAGCCCACTTCTCCAATTACCTGGCCCTGAGTTTGAATCCCTGAGCAC
TGAGATGGGAACATATAGATGGGTCTCAGGTACACACCTGCAGGCTGGGGATGGTGAAGG
CAACATTCGGGAATTTCAGATAGGCCAGGACTCTGTGGGACAGGTCAATCCGTCCACACGT
GGGAGCTTCAGTTGAAGACAGACAGGAAAAGATCACAATGACAGATTCTCTACAAGCAC
TACTGTACTAGCTAAGTGCCAGGGGACAGGTAGGGATGGACCAGGGGTGTAGGACTTT
35 GTACTTGGAAGTGGGAGGTTTCTTTTCTTTTCTTTCTTTTCTTTTCTTTTCTTTT
GAAACAGGGTCTTGCTCTGTTGCGCGATCACGGCTCACTGCAGCCTCAATCTCCCCAGCC
CAAGTGATCTTCCAACCTCAGCCACCCAAGCAGCTGGGATCACAGGTGCATGCCACAACA
CCCAGCTAATTTTTGTAGAGATGGGTCTCACTATGTTGCCAGGCTGGTCTCAAATC
CTGGGCTCAAGCAATCCTCCCACCTCTGGCTCCCAAAGTGCTGGGATTACAGGAGTGAAC
40 TGCTGCACCCAGCCTGAAGTAAAAAATTTCTTAACCAGGCACAGTGATAGGATAGTTTCC
AATTCTAGGAATCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 206>:

GNMCJ23R gnm_206

45 AACTCTACAAAAAATACAAAAATTAGCCAAATATGGTGGCACATGCCTGTAGTCCTAGC
TACTTGGGAAACTGAGGCAGGAGGATCACTTGAACCTGGGAGTTCAAGGTGGCAGTGAGT
TATGATGGAGTCACTGCATTTACGCCTGGGTGACAGAGTGAGACTCTATCTCTAAACCAA

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ATTTTAAAAAGTATCTATATGTAATATAAAAAACCACAAGTGGGCCGGGCACAGTGGCTC
 ACGCCAGTAATCTTAGCACTTTAGGAGGCCGAGATGGGTGGATTACTTGAGGTTAGGAGT
 TCGAAACCAGCCTGGCCAACCTAAAAAATTTTAAAAAATACAAAAAACCACAAA
 AAAACCCACTAAAAATACAAAAAATAAATTAGCCGTGCATGGTGGGGGTGCCTG
 5 TAATCCTAGCTACTCGGGAGGCTGACGCAGGAGAACTGCTTGAACCTGGAAGGCGGAGGT
 TGCAGTGAGCTGAGATTACACCACTGTACTACAGCCTAGGTGACAGAGTGAGACTGTCTC
 AAAAAAACAACAAAAAACAACAAGTGAGCTCATACTATACATGCTGTCTGTTTA
 TATATATAGCTAAGATATATATATGTATAAACTATATATATAGTT

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 207>:

GNMCJ23F gnm_207

CCAGCCAACAGAGAAAAGCTGGGACAAGAGACAAATGACATCATTTGCACCCCTAGATCG
 AGCCATGCCTGAAGTCCCTCTCTGAACCTTCCAGTTACCTGAACAAAAATCCCTTTTA
 TTGCATAAGCCAGTTTCAGTTTCAGTTCTGTTGCTTCAACCAAATATCAACCTGATATA
 15 ATTGGCTTCATGTTTGTCTATTCCCTCTCCACCATGAGATTATAAGGTCTTATAAATTA
 ATAGGAATTTCTAAATCTTCAGATAGAAAATTTAGCTATCTGAGAAGTACACACAGCAA
 GTACTCAATGAACCTTTTTTTTTTTTGAATGAACGAAGACAATAAGAGCAAAAAAGGT
 AGAGGGAAATAAAGAAGGAGAGAAGGAGAAACAATGTCCAGATCATGTTTGAAAAGCA
 GGGCCACCCTGCAGGCCAAAAGCTCACACATGCCAGGAGAAACGCCTACTGCTCCCTC
 20 AACTCTGATTCCCTGGAGCCTGGCACAGCCGAAAGCCAGGCCAGATGGGACCTGCCTC
 ACTGACACTCATTACAGCTTGGGTTGCTTGGCTTGGTTTTAGATAACAGGAAAAGCGA
 GAAGGTCTGTCTCAAAATGTCTGTGTGATCTCAGAATTGAAATCCTGGATCTCAAGGGCT
 TAACTCTCTAAGGCATCCTCCACTCTGCCTCTGGTTCTGAAGAAACCCAGTGGGGAGAG
 AA

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 208>:

gnm_208

CATGACAACCTACCAGCCTGTATTCCACCCGAATGTAAGCTTCTGTGGGCAGGAGGCTCA
 TCTGTCTTGTTCGCTGCCATGTTGCTACTGCCAAGCAGTCCCCAGTAGGCTGGTCATGGC
 30 TGGTGTCCACGAACATATTTGTGCAGCATATGGGTGAACATACACACGTCCTTTCTGAAA
 CAAAATTGAACCTCAGTAGGACACTCACTCAGGCAAGATTGGGAAGCTTTAGATCCATTC
 TGGAGGAGGGGAGATAGAATCAGAATATATTCATTTAACAAACATTTATGGGGAACCTA
 CTTTTTTGGCAGACCTCATGCTACAGAAACAACAGTACACAAAGCCCTGCTTTCATGAAG
 CTTACAGTCTACCGGGGACTGGGAGAGGCGGACCATAAACACACACATGCACACATATAC
 35 ATGTTACATCCACACACCCCTGTATCAGATAGTGATAAATATTATGGAGCAAAGAAATC
 TGGAGGAAAGGATCGAGAGCTCCAGATGGTGATGGTAGGGATAGGGGTGGTGCAGAACA
 GCTTTAATAAAACATTAGGTGGTCAGTAAAGGCTCTGCCCTCAAGAGGGATACAATCGCT
 TCTTAAAGGTCCCACCTCTCAATGCTCCCACTTTTGGGATTCAAGTTTCAACATGAGTTTT
 GGGGGGTCAATTTGAATCAAAGCACATGGTGTCTACCATCAGCTCTAAGTTTACAGCCTA
 40 ACACTTCCGCAATAACAAGAAAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG
 GATCTTTCCTAGTTACTTCAGCAAAAGTCCCCAGGTTAGGTCTGATTGGGCTTGCTTGAG
 GCAGGTGCCCATTTCTGATCTGACCACTGTGGCCCGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 209>:

GNMCJ24F gnm_209

CCGCTTCTCTTCTTACTATTTCAAGATGGCTGCCCAATTCATGTGCAGAGGAAAGAGAAG

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TTCTTTCTCTTTACTCTGACAGTTGAATAAAAAATCCAAAGCCTGGCTCTCTTTGGTCCA
 TCCCTGAATCAGTCATTATGGCCTGGGGAATGGAGTATGCTAATTGACTTAAGGGAATCA
 GGGCCAGCACTGGAGTGAAGGTGGGGCTAATGCCACCTAATCCACTGGAGAGTACCAAA
 5 AGTGTGCTTCCCCAAAGGAAATTCACAATACTGTGGGAAAGGATGAATTGATGCTGAGTC
 ACTATGAATGACAAATGCAAAAGATAAACATACCAGGCCCACTCCTTGCAGGAAGCAAA
 AGATCCTAGAGGGAGAGGCTGACATGGAACAGGATGTCTGACCAATAAACTTCTTCCAA
 TGAGGATTCACAGACATAGTCATACCTTCCAGGTTAAGTAAGGCTCAATTCCAGGCAGCT
 GTCTGTCTCAGCTCCTCATGCACATCCGTCGCTTCTGTCTACCCAGCATTTGTTTCTCCC
 10 TTATTTCAGTTCTCATTGCTGTGTAACAAATTGACAGAAGTGCATCAACTAAAGCAACACA
 AATGTATTATCTCACAGCTCTATAGGTCAAATCCAAGCACGGCTCAACCGGATTCTCTG
 CTCAGGGTCTCATGGGCTGAAAATCAGGTGTCAGCTGGAGCTGTAGTCTTATCTAAAGC
 TCAGGGGCTTCTTCCAGGATGATTGGGTTGTTTTTCAGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 210>:

15 **gnm_210**

ACTACAGGCATGCACTACCATGCCCAGCTAATTCTTTTAGTTCTTGTAGAAATGGGTCTT
 TGCTATGTTTCCCAGGCTGATCTCAAACCTCTGGCCTCAAGCAATCCTCCCATCTCGGCC
 TCCCAAAGTGCTAGGAATACAGGCATGGGCCACCATCCTGGCCACACAATGTTTTTTTA
 ATTTAGTTATAGTAGTCTGTACCACTGTAGGATGACAATAGTTAACAATAATATATAGTT
 20 TCAAATAGCTAGAAGGAAGATACTGAACAGAAAGAAATGAGAAATGTTTGAGATGGTAGA
 CATGCTAATTACCCTGACTGATCACCATACATTATACACATCAAACATCTTTATGTACC
 CCATAAATATGTACAATTATTATATGTCAATTTTTTTTTTTTTTTTGTAGATGGAGTCTC
 ACTCTGTCAACCCAGGCTGGAGTGTAGTGGCGCAATCTCGGCTCACTGCAACCTCCGCCTC
 CCAGGTGCAAGCGATTCTCCTGCCTCAGCCTCCTGAGTAGCTGGGATAACAGGCATGCGC
 25 CACCACACCCAGCTAATTTTTGTATTTTTTAGTAGAGATGGGGTTTCGCCATGTTGGTCAG
 GCTGGTCTGGAACCTCTGACCTCTGGTGATCAGCCCACTTCAGCCTCCCAAGTGCTGGG
 GATGCCGGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 211>:

30 **gnm_211**

ATACCTCTCCAACCCCATGTCCTACTGTTATATCCTCTTCGTGCAATTTACTGAAGAACA
 TGCAAATTATGCTCCTAATATCAAAGCCTTTGCACTGTCAATTTCTTTCTTTCTGGAAC
 TTTCTTTCTCCAGATATTCCCGTGGTTCATTCCCTTCACTtCctgaGGTCTCTGCTTAAAT
 35 GTCACCTCCTCAGGTCTTCCCTGACCAAACCTGTCTATAATAGTACCTGCTCCTTCTTTGG
 CTCCTTTTTCTACCCTGTTGTATTTTTCTCCATGGCACTCATCACTCCCTGACATAATA
 TAGTTATTTGATTATCTATTTTCTGCCTGGTTCATTCCAACACACCAGCAGGGAGTTAGT
 TTTGTAAACTGCTGTATTCTCAGAGCATAGAATAATGCCTGGCTCACAGCACTACTCAAC
 AAATATTTGAAGAATGAAAGCATGAAATAATTACACAAACATAAATATGTATTATAGCTG
 TGCTTGGTGTATAAAAGAGAAGTATTGGCCTTTCTTCTGGCTAATTGCTTTGGCCTGG
 40 TCAGAGAATTCAAGGAAGGCTTCATTGAAGACTTGAAATTTACAATGAATTGATCTTAGC
 CGGGCAAAGAGGAAGGGGAAGAATCCTCTGGGCCGAGGAACAGCCTGTGAGAGGGTCTTA
 ATCTGGGGAGGATAGCACCTTGGAGGGACAGACAGATGGCCCGGCAGGAACCTTGGGGA
 ATGAGGGGCAAAGAGGAGGGTGATACAGCCACTGGAAAAGCTTTGGGCTTTATCTTGAGG
 GTAATGGGGAGAGGCGGAGGGTGACATGAGTTTATTGAGATGGTGTTTTCAAACAGCA
 45 TCTGTTTGAAAACAGCAATCTGTTTCTTTGCTTATTaATAAACTTGATACAGAGCTGA
 CTTTGTGTCAGCCCTGTTTGAAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 212>:

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gnm_212

CTAAAATAAAGCCTGTTTTATAATAAAGTGTGAATATCTCACATAATTCATTGAACATT
GTACTGAAGGGGCAAACCAGAATGGTTGTATGGGTACTTGAAGTACAGTTTCTACTGAAT
GCACATTGTTTTTGCACCATTGTAAAGCTGAAAAATTGTAGATTTAAACCAATGTAAGTTG
5 GAGACCATCTGTGTTTTGTTCCCTCCTTAAkGCATACAAAAGTGTAGCCAAAGAGTGTTC
AAAGCTGGATTACATAATGAATTATTATTATTTTTTTTGTAGATGAAGTCTCGCTTTGTT
GCCCAGGCTGGAATACAGTGGCGTGAGCTCGCTGACTGCAACCTCCGTCTCCTGGGTTC
AAGCGATTCTCCTGCCTCAGCCTCCCGAGTAGCTGGGATTACAGGCATGCCTGGAATTAC
AGGCACACGTCACCACACCCAGCTAATTTTTGTATTTCTAGTAGAGACAGGGTTTCGTCA
10 TGTTGGTCAGGCTGGTCTCAAACCTCCTGACCTCAAATGATCTACCCGCCTTGGCCTCCCA
AAGTGTGGGTTTACAGGTGTGAGCCACTGCACCTGGCTGAAAATCCAGATTTTTGTCCA
AGATTGCAGAATAAATTGCCTGGGACAAGTCAATGAGTGAGGAGAGATAAGTCAATGGAC
TGAGAAAGGGGTAAACTCAGTCTTGATATAACAGAATACAGAGGGGATTTGGGTGGATGGG
GAGCAGTGAGTGAATGGGCAAAGATAGGACAAAACCAAGCCCACTTAAAGAACAATAATA
15 TTACAAAGGACAAAGTTGAGAATAAGAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 213>:

gnm_213

TAATGTTTTTCTTCTTTTCAAAGATGTAATATTTCTGTTAACACTATAGAAAGATAAGAA
20 AGATAAGAACCTTCAGGGCTCTTTGAAGACAAAATTGTATTCTGAATTGGGCATTCATTA
GACTGAGCGGATAAATCTCTAAATCTGGGTTTTATGATTTTAGGTTTGTGTTAATGG
ATTTCTTTGCTTAAACTTCAGGTGCATGCATGATAATTTTGAAGAGCAGAGAGATGGACA
AATGTGATTTGATTTATAAGTCTTTTCAAAGGCATTTGAAAATGTATTTACAGGTTAGTT
AAGCTTATTTTTACACTCTTAGTTGAAGGCAGGAGTGATTGTTTTCTCCCTCCACACC
25 TCGAAAGATGGAATGGTTTTTCACTTATAAATTTTTCCATCTCAGAAAAGGAGGAGCAGA
GGTTTTCCAGAAGGGTTAAGAATAAAGGTGGGGAAGGCAAGCCCTTGTTACCATAAGAGC
AGGAATCCATACGGAAGAGTGGCTGGTTAGATTTGCTGGCTTGAGAGTGGATTATTTTA
TCCAACTCTTGATCAGTGTTGTGAGAATTAAGTAAGATAATGGATTTAAGGGGCTTAGAA
GTGTCCAATCAATGTTAGCTACTGTTGTTATTCTCAGTACTACCTGTAGGCTTGATGGAT
30 ATATTTGGAGACATTTGTACCAAGGGTTATGGGGCAATAAGTGCCTGGTTCCTATTTGGC
CCAGTGAACCTTTTCAGGACTTAGGATGAGGAAGGCGGAAAAGCCCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 214>:

GNMCJ29F gnm_214

CCGGCGCGATCACAGCTCGTTGCAGCCTCGGGCTCCTACAGCTTATGCAATCCTCTCACC
TCAGCCTCCCAAACCCACACCACCAAGCCCAGCTAATTTTTGTATTTTGGTAAATACG
AGGTCTCACTTTGTTGCCAGACTGGTCTTGAACCCCGGCCCAAGTGATCCTCCACCT
TGGCCTCCCAAAGTGTGTCTCCCCACCTACACTCCCATTCTTTCCCTTAAAAAAGTCTG
AGTCTGGGTGCAGTGGCTCACACCTGTAATGCCAGAGCTTTGGGAGGCTGAGGCAGGAGG
40 ATACCTTGAAGCCAGGAGTTTGAAGCCAGCCAGGCAACACAGCCAGACTCCGTCTCTAC
AAATAACACTTTTAAAAAATTTACCCAGGATACCCAAAGGACTATAAATCATGCTGTTTT
AAAGACACATGCACACATATGTTTATTGCGGCATTATTACAAATAGCAAAGACTTGGAA
CAACCCAAATGTCCAACAATGATAGACTGGATTAAGAAAATGTGGCACATATATGCCATG
GAATACTATGCAGCCATAAAAAATGATGAGTTCACATCCTTTGTAGGGACATGGATGAAA
45 TTGGAAATCATCATTCTCAGTAACTATCGCAAGAACAAAAACCAAACTGCATATTC
TCACTCATAGGTGGGAATTGAACAATGAGAACACATGGACACAGGAAGGGGGACATCACA
CTCTGGGGGCTGTTGT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 215>:

gnm_215

5 GTACCCCTTCTTTAAAATCTTCAAATATCTAATCAGGGGTTCAAATTTCTCAATTGTCTC
ACAATTTTTTGGGTTTTTTTGAGACAGGATCTTGTTCTGTCACTCAGGCTGGAGTGCTGT
GGCATGATCATAGCTCACTGCAGCCTGAATTCTGGAGCTCAAGAGATCTCCCATCTCA
GCCTCCTGAGTGGCTAGGACTACAGGTGTGCATCACCACGCCAGGCTAAATTTTAAATGT
TTTTATAGAGATGGAGTCATGCTGTGTGCCCAGGCTGGTCTCAAACCTCTGGCCTCAA
CAATCCTCCGCCTTGGCCTCCCAAAACACTGGGATTAGGTGTGAGCCACTGTGCCTGGCC
10 TAATTTTTTATTTTTATTTATGGTATTTTTTGTGTTGTTGCTTTGTTTCTTTCTTTTTT
TTTTTTTTTTGGAGACAGAGTTTCACTCTTGTCTATCCAGGTTGGAGTGCAATGGGATGAT
CTCGGGGACTGCAACCTCTGCCTCCCGGGTTCAAGAGATTCTCCTGCCTCAGCCTCCCG
AGTAGCTGGGATTATTAGCATGCGCCACCATGCCAGCTAAGTTTTTGTATCTTWAGTAG
AGATGGGTTTTACCATGTTGGCCAGGCTGGTCTCAAACCTCTGACCTCAAGTGATCTGC
15 CCGCCTCGGCCTCCCAAAGTGCTGGGATTACAGGTGTGAGCCACCGTGCCAGACATGAC
GTGTTTGAATCAGGATCCAAATAAGTCTAGATTCTACAAGTGATCAATCTTTGTTTTT
GAGTTAATAGGCTCTTTCTCTCTCTCTCTGTAATATATTGGCTAAAGAGACTAGGTTG
TTTGTGTTGGGAGTTTCCACAGTCTTGAATTCTCTGGCTGCACCTAGTCT

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 216>:

gnm_216

CCAGTCTGGAGTGCAATGGCGTGATCTCGGCCACTAAAACCCCCACCTCCTGAATCTAA
GCAATTCCTCTGTCTCAGCCTCCTGAGTAGCTGGGACTACAGGCTCACACCACCATGCC
GGCTAATTTTGTATTTTATAGTAGGACGAGGTTTGCCATATTGGTCAGGCTGGTCTCA
25 AAGTCTGGCCTCCGGTGATCCACCAGCCTCAGCCTCCCAAATGCTGGGATTAGAGGCA
TGAGTCACCATGCCCAGCCTAACTTGGCAAGATAATAAATCACCTTTTTAAGTGTCGTT
GGGCACCTGTCTGGTTGTTTTCTTTAGGTTACCATGCCAGCAATGATTCTTTTGAGTT
TCTGACAGAAGATAGTGGTTTTCATCCAAATAGTCAACTACTTACCCCATCCCTAAGC
CACTTGATGGAAGAAAAAGAGGAAGAAGCCAGTACTGTGACTGCGTAAGCGTCCCCCA
30 GCATACCCGGCTATGAGATGTGTGGCAGCTGAGACCCGGGAACCTGCTCAAGGGCACCAG
CCCCATCTGTCTGCACCTCACTCACCTTCCTCAGGTAATCGCATGGGCATGTCACTGACTT
TACATGCTGCTGCAGCTCCTTGGTGAGCTGGCCCTGGTCAATGGGACAGGAAGTGTGGGT
CAGGACAATAGAGAGCTTCACCATTGCGAATGAGCACAGGGGCTCATGATGAGTGCCA
ACCTATTAGATAATTTAAAAAAAAGTGTGAATGAGTGGAAAAACAAGGTGATGTTG
35 AGTCTATAGTGGTCAAGGGCTTCAGAAAAGGACAGACCCAAGTTCAAATCCCTGTACTTT
GAATTTCTACTTCATGCCATGCAAAATTACTTTACCCCTTTTAACCTCAGTTTTCTCTG
TGTGAAACAGGAACAATAGTTTCATTCGTCATTCACTTTCTCTCAAGATTTACGAGATC
ATACCTATAAAACATCCAAGTCATTTAAATGTATCATCATTTCTGTCTATAATTAGTGGGA
TCCATTTCACTATTATTGGATATACAGTTCTGTGCCTGAAACCTACAAAAAACAAAATG
40 TTAAGTCTAAAAAGCATTAGTGATTTCTCATTTTTATATTACTAATTATAACCCTATTTA
ATCACACAAGGCCTTGTCCGCGGCAGGTGCTCAATAAACACTTGTCGAATCAATGCATGT
GGGCTCCGGAGCCACACTGTTAGATTCTATTCTGCCTCCACCACTTATCAGCTGTGTGA
TCTGGGTAAGATAATTCACCTCTTTATGCTGCACCTCCCTCTCCATAAACTATATATAA
TGAGAATCCTTAGCTCATTGCGTTGTGGTGAGGGGTGAATGATTGGCACACAGGAGGGG
45 CTTGTTAAACATTAGCTGTGATGATCTCCTTCCAAATCTTCATTTTCAGAGCCACAGATG
AGGCCATAGTGCAACCAGGTGACCTTAGAGTGAAGTACACATGATCGCCAGCTATGCTC
TATCTCCACCATAGGTCCAAGACTGGGTAGTTCTGGCCTGGAGGTTTCTGCTGCATCTGC
CTTCTCAGTGTTACCTAAGGACTTTTGTATTTTCTCCTCGCATCCCCACAGATGGGGT
TCAGGCTGCCGGACACAGCTGGGTGATGCCAGGGCAGTGGTCACCTGTGCCAGCCCCGTG
50 AGGTAGCTGGAGGATCATTGTTCTTCTCTCGGGCTCTGGGCAGATGCCAGGGCTGGG

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5 GTGACCCATGCCCTCAAGTTTCTTGCTTTGGTGGGCCACATTTTCCCTTGGCAAAGAGGG
TAAAGGTCACAGGATGCCGGAGAGCTGTGACTTCTCTGTGCCCTGGGCCAAACTATGAA
GACCTGACACACTATGCTAAAAGTCCAACGCTGGGTGCTCCCCAGAGCTTCTTGCCCTCAC
CGCTTCTGCTGAGGGAGGAATGAATACTATGTCTCCAGAGCTTTGGGAGCTTGTAGCA
AGCAGCCTCCCCAGCGCAAAATCTCTTGAAACCTCTAACTGTGTCTGAAAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 217>:

GNMCJ31F gnm_217

10 CCACAAATATAACTTTAGCAAATATTTAGCATAACTATCAAAATTACAAATCATATTAAA
TTTGTATAAATGTATGCAATTTTCGGAACACGCATATCAACAACATACCCATAAATATAA
CTGAGATGAGATCTAATGTCACCTCACTTGACAGTGCCCTCCCATGCAGTATCGCCACAT
TTGACAATGCCTGCCCATTAACTACCAAATAAATCGAATCACTTAATACCTCTACAAG
15 ATGAGAGATACATTCTTTAGACTCCCCAAGGGATGCAGCTGAAAAAATCCCAAAGTTAG
TTTTAAGCCAAAAAGACTTGATTAGGATTTTGACACTGGAGAAACCCATCAAAGATGTC
AAGTTTGAAGCACTTGATCAAAACAGAATCACAGGTCATTTAAAAGAGTATTAATTT
AACCAGAGACTTCCAAAGCAATACAGAACTTACATGGATATAAAAACCTAACCCTTTT
AAAGGTCAGATTTGCTAAGTGATCAAAAGGGTACTTGAATTGAATCGACACAGGAAGAG
20 TGTGTACAGGGTTATGAGTGTAGGCAGGTGGTTACTTTGGTCATATCTCCATTTGCCACC
TGATTACACATGAGAATGGCATCTTTACTACCAGAAAGCCAGTATTATAGGAGGTGTAG
GAGGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 218>:

GNMCJ32R gnm_218

25 GTACCATTATGTTTCCTTAAACAAATGACTCCCCTGTCTACTAGGCATTGTTCTAGAGTG
CTCATTGGGGGGTGGTTTGAAGACAGTGCATGCTGCTAGCTGCAGGTACTTTATTGCTGG
TGCTTTCTAGCCCATCCTGGTTTATTCTGGGATGCCTGGTGTTCAAGACCTGGCAGGTGC
ACATGTGAATAGGAGACACAGGGAGTTCTCACTGGTCAGCAGCTTCCTAAAGCACAGGA
AGTAAACTCCAGCCCTGCCACCAATGTCTTTGCCTCTCATCTGCCTCATGGGGTGTAGA
GAATCATCTGGAGTGTGAGAGTGGGGCTCTGGAATTACCTTGACACTGGTTCAAATCCAG
30 GCACTGCCACTTAGCAATGGTCTAGTCCTAGGTAACCTCACATAGCCTGTTAAGCCTCCAT
TTCCCCATCTGTAAATGGGATTGTGGAATGCCTTCCTGATAGGGCCTCACAGTGTGGG
CACACGCTGAGTGTGCATCAGTGCTAACGATCATTCTCTTCTTGACAGGCTCTGTTCCCTGT
ATGAGCTTCTGTTAAAGACCACCAGAAGGCCTGAGGAGCTTTTGAGGTAGGAAAATGTAA
CTCGGCCTGGGTGCTGAACAGGCCTTTTCAGAGCCTTCTGCCAGAGCAGCCTACTTTTCCA
35 GGTGGGAGAGTTAGGCAGTCACATCTGTAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 219>:

GNMCJ32F gnm_219

40 CCGGGCAACTCTTCCTGCTCGAACATGTAGGTCTTCCTCAAAGCAGGTCTAGCTTCCATC
CATTTGCTCAGTTATTGGCTTGCCACCTGGGCAGGTCTTTAATATAGTTCAGTGGTTT
GTACCAGCAAAGTATTAGAAATGCAAAGTATTAGGCCTACCCCTTACCTACTATATGT
AAACTCTGGGAGTGGGGCCCCCAATTTGTGTTTTTACAGCCTTCCACACAATGCTGATG
CAAGCTCAACTTTGAGAATCACTAACAGAATTAACAGTCCAAGGGAATGAGAGAGCTTCA
TTAAACTTTGCATATTCCTGTAATGATCTTGAAGGATTATACACCAAGCACTCTATGCT
45 TCCTGGTTTTCTGGGAGATAATTTACTCTTTGAAATTCCTCATTCTGGTCTGAAACACA
AGGCCAGAGTTGAGAAGGTGCTTTTTAATATCCATTACAGGAGTCTGTAAGCCAGCGGTT

-670-

5 CACACCAAAAGTTCAAATGCTGTAAGGCCTGTGTTTACTAGCTTAGACACTGAAAAATCA
 GTCCTGGCTGGGTGAAGTGGCTCATGCCTGTCATCCCAGCACTTTGAGAGGTGAGGCA
 GGAGGATCACTTGAGCCAGGAATTTGAGACCAGCCTGGGCAACATATCAAGACCCTATC
 TCTGCAAAAAATAAATAAATTAGCCAGGCATGGTGGTGTGTCCTTTAGTTCCAGCTACT
 C

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 220>:

gnm_220

10 CCTGACCCCATCAGCAGAGCCTAGGTCACAAGCCTCTAAATTCGAAGGCCCATCACCTGT
 TTCCCTGTGTGATTTGAAATGGGGTCAAGCTCCCATTTCTCCTTGAAGAAGTGAAGCCT
 ACTTTGAATATCTCATCAGGAAGGCATTTTATTGCTGATGGCTGGAAATATGGCATCAAA
 TCCTTGTCAGCATCCGGAGCTCTGCCTTAGTTAATCCAGCTGGGGAGAAAAAGGAATCA
 CGGGGGTTTAGTTCAAGCCATCAGAACTCCGCTTGTTTATTAAATGGTGTGCATAATGT
 TCAGATCTGAGTGTTCTAGGCAGGCATCATTCTTACAAAAGGCCCTGGAAATCACACTG
 15 GGGAATCAAGTTCCTTCATCAACTCAGAAAAAAAATGTGGGTCACATTAGCCCTGATT
 GGCTCCTACAGTGAAACGCATGCCAGAAGGAACCTCAATTTACACACTTCAAATTTT
 GTATAACCTACTTAGGGGCCAATTAAATCACATTCTAACTAGCGGTTTCCAAACTTT
 AGTGTAACAAGATCTCCAAAAGAGCTTGTTTTAAAGCAGATTGTCAGACCCACCCTC
 TGCAACTTCAAATCATGAAATGTAGGTTCTACTGTAACGCCACTGATGTTTGCTACACAT
 20 GGCCAAGGATAATGTTTTATTTTGTGTCACCATTTAAGTTTGGAAAGAGAGAGAAAG
 TAGCTTCAGGGTGAATGTTTACCTGCAATGGTCCCAAGCTCCTGCAAGACAGAACTGGTCC
 ACTCAGTGGGATCCCCAACACAACCTTCAGCCTTCCTCTTAACTCGGCTAAGACATGTG
 TGCTGCAGAGCAGGGTCCCAATTCTGGCCACTACCACCCTGGTAGTGGTTAAAGAGGGAG
 GGATATAATATGAGCTTGACTCTTCAGCCAAAAACAAACAAACACACACACACACAC
 25 ACACATACACACACACACTGCACAGTAGGCTCAGCAGGGACAGCAGATCCAGCTTATCCC
 ATTAGCCAGTGGGATTTTAGCCCGAAAGGTGCCAAGTGTGAGGAGGTGGAATATCTGG
 ATGGATGGATGGATAGATGGATGGATGGATGGATGGATGGATGAATTAACCCATTT
 GGCATTTTGCACATTCATATTTTAGTTACCTGAATTCCTGAGATCTTTATAAGTGGGATT
 CAGTGATGTTTATAGCACACAGGGTTGCACCAAGTCCTACCAATGAAAGCTCTTCAGGT
 30 CCTGGATACTGTATCCTGAATCATCCAGGTACCCTTGCAAAATGGATTGAGCTAAAAAA
 TAGTAAGAATAAAAGATAAACCATCCAGGGATGATCCAGGGTCCCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 221>:

gnm_221

35 CCGGAATCTGTCTCTTATCATGTTTTTGAACCTTGCTTTTCTTTGTGTTGGCTTCATTGA
 GAGACAGGCTCTATGCCTGCATGTGGTAGGTTCCAGCAGATCCTTGTGTATATCCTTCTA
 AGTTCAAGTCCAGAGTAAAGAAAGCTCTTCCCCTAATGCTCCACTCAAAGTTCTGGTTGA
 CTCTGGTTAAATCACATGTCCAATCCAGAACCAGTGACTGCAGCTAGGCTAAGGTATGAA
 TTGAAATTCATCACTCCTGGAACCTGGTGCAGTTAGCTTTGACTGAACCACATGAAGCAG
 40 GAATACAAGAGAGGTGGTTCTCCAGAGGAAGTTATGAATGATGAATAGCCACTGTGCTAG
 AATTATGGAGACTTATGTGTGAGCCGCTTAAATCAAGGCTTAGTTTAAAATAGTTTAAAC
 ACCAAAGCATTTTGTGTGCTACTCTTGGAAATTGAAGAGTAAACATTGGAATTGAAGGGGT
 GAACATATTTCTGTAGGACCACAGAGGAAGAAAAAATCATTAAGGGGTAAACATATTTCT
 GTAGGACCATAGAGGAAGAAAAAATCATTCTGGCTGAAACCTCATGAAGAAGGTGACATT
 45 TGAGTTGAACCAAGAAAAAAGAAATGCTGCACTTGGAAAGTGCAGAAGGGCATT
 TCAGATGAAAGGACTGGTTTGAACAAAGGCAAGAGACAGGAATATAAGGTTTTGTG
 GAGGTTGTGGAAGGCTGGGTGCGGTGGCTCATGCCTATAATCCCAGCACTTTGGGAGGC
 CGAGGTGGGTGGATCACTTGAGGTGAGGAGTTGATACCAGCCTGGGCAACATGGTGAAC
 CCCGTCTCTACAAAAAATACAAAAAGCCAGATGTGGTGTGTCACCTGTAATTCTAGCT
 50 ACTTGGGTGGCTAAAGCACGAGAATTGCTTGAACCTGGGGAGGTGGAGGTTGCAGCGAGC

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TGTGCCACTGCACTCCAGCCTGGGTGACAGAGCAAGACTCCGTCTCAAAAAACGAAAA
AAAAAAAAAAGGGAGAAGAAACGTTGTGGAAAAAGATGCTGGAAAAGTTTGGATCCTGA
TGCAGAAGAAGTTGTATGTCCAACTGTCTGAGGGTCATAAGAGTGACTGAAGGAAATAA
GCAGCAGACACACAGGACACAAGTGCCTTTAATATTGGTG

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 222>:

GNMCJ35R gnm_222

CGAAGCCGATATATGCCACCATATAAGCGAAAAAGAGTCCGGGATTTTTTGCTCGCCAGA
CATAACCGGTTCCGGGCATTTTAAACCGTTTATCAATCGCGCCTGCGGCCACCTTTC
10 CATGCTTCGCGGAAACAAAATATCGGGATAAGGAAAAAACGGCAACGACAAAAACTGC
TGTACATCCATAACTACTTTCCTTGTTCTTTTGTAAATCAAGTAACTGTTCCGGGTGTGA
CGGCGGGATACCCCTGCGCATCTTCCGGTACCTGGTGCATAGCCGAATAGGGACCAGCG
GCCCTAAAAAACGCGGTTACGTTTAAAAATATAAAGGTCAGCCAGCGCACCGAAACGGG
CGGCAAAATTCACGAATACGTACTGACAGCATATCTTTCGGTGACGGTACGGCATAACACT
15 GAGCCTGAATCCCCATATGCAGCGCAATAAATAATGCTCGCTCACAGTGGAACGTTGGG
TGATAATAATGAAATCATTAGTATCGAAAACTTTGCGTGACGACGATGGAATCCAGCGT
ACGAAAGCCTGCGTAATCGAGAACAATATCTGATGGGTGACACCAGCAGCGATTAAATC
TTTGCATGCGTATCGGCTCATTATAACTTTGCAATGCGTTATCGCCGCTCAGTAATAG
ATAATTTACCTTACCGCTGTTATAGGCATTAATCGCTCCTTGAATGC

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 223>:

GNMCJ35F gnm_223

CCGATGTATGTTTCACGCGTTGCATAATTAATGAGATTCAGATCACATATAAAGCCACAA
CGGGTTTCGTAACTGTTATCCCATTACATGATTATGAGGCAACGCCATGCATCCACGTTT
25 TCAAAACCGCTTTTGCCCAACTTGCGGATAACTTGCAATCTGCACTGGAACCTATTCTGGC
AGACAAGTACTTCCCCGCTTTGTTGACCGGGAGCAAGTCTCATCGCTGAAGAGCGCAAC
GGGCTGGACGAAGACGCGCTGGCATTGCGCACTACTTCCGCTGGCGGCGGCTGTGCGCG
TACGCCATTGTGCAATTTTAATGTTGGCGCAATTGCCGCGGTGTGAGCGGAACCTGGTAT
TTCGGTGCCAATATGGAATTTATTGGTGCGACAATGCAGCAAACCGTTTCATGCCGAACAA
30 AGCGCGATCAGCCACGCTGGTTGAGTGGTGAAAAGCGCTTGCAGCCATCACCGTTAAC
TACACGCCTTGTGGTCACTGCCGTGAGTTTATGAATGAACTGAACAGCGGTCTGGATCTG
CGTATTATCTGCCGGGCCGCGAGACACGCGCTGCGTGACTATCTGCCAGATGCCTTTGG
GCCGAAAGATCTGGAGATTAAACGCTGCTGATGGACGAACAGGATCACGGCTATGCGCT
GACGGGTGATGCGCTTTCTCAGGCAGCGATTGCGGCGGCAAACCGTTTCGCACATGCCTTA
35 CAGTAAGTCGCCAAGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 224>:

GNMCJ38R gnm_224

CTGATAAAGACATAGCTGAGCCTGAGGAAGAAAAAGAGATGTTTTGTTTGTGTTTGA
40 GATGGTGTCTCGCTCTGTTGCCAGGCTGGAGTGCACTGGTGCGATCTCGGCTCACTGCA
ACCTCCACCTCCCGGGTTCAAGCAGTTCTCCTGCCTCAGCCTCCTGATTAGCTGGGATTA
CAGGCACGTGCCACCATGCCCGGCTAATTAATAATATTTATAGTAGAGATGGGGTTTCAC
TGTGTTAGCCAGGATGGTCTCAATCTCCTGACCTCATGATCCATCCACCTCGGCCTCCCA
AAGTGCTGGGATTACAGGCGTGAGCCACTGCACCTGGCCAAAAAGAGGTTAATTGGAC
45 TTACAGTTCCACATGGCTGGGGAGCCCTCAGAATCATGGCGGGAGGTGAAAGGCACTTCT
TACATGGTGGCGGCAAGAGAAAAATGAGGAAGATGTAAAAGTGGAACCCCTGATAAAACC

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ATCAGATCTCGTGAGACTTATTCATCATGAGAACAGTATGGGGGAACCTACCCTAT
GATTCAAATTATCTCCACCAGTCCCCCCCCAACAACATGTGGGACTTACAGGAGTACA
ATTCAAGATGAGATTTGGGGCCAGGCGTGGTGGCTCATGCCTGTAATTCAGCACTTTTG
GAAGCTGAGGCCGGT

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 225>:

gnm_225

AAAAAATTAGCCAGGCGTGGTGGCAGGTGCCTGTAATCCCAGCTACTTGGGAGGTTGAGG
CAGGAGAATCACTTGAACCCAGGAGGCAGAGGTTGCAGTGAGCTGAGATCATGCCACTAC
10 ACTCCAGCCTGGGTGACAGAGTGAGACTCCATCTCAAAAAACAAACAAAAACAAC
AAAAAATTCAACCTGGGAGGTACAAATTCAATAGGTTTGTGACAGGGCTTTGGAATCCAC
ATATTATAAAAACCTCTCAAGTGATTCCAATGTCAGCCAGAAGTAGTGACCAACAATAAT
TCACATCCCATGGAGCTCCACATGGGCACTCCTGTGAGTGCAAAGCACCTTCCGGTCTCT
GGACACACTGAACCTCAACCATGAACAGAAATACGGACTAATGTACAGCTGGTATTTGAGT
15 TAATTATGCCAATCATGGAAAAACAGACACAGCTTCTACCAAAGGGTGTAACTTCCA
ACTTCTCCTAAATAGCGCTGTTCTAAAGCTAGGCACGCCCATGTGGGCAGACTGAATTCA
ACCTTCTTTCCCATGACCAACACTCTCCTGACCTTAGGAAGCCACAAAATCGTTGCAGA
GAAGGAAAAGCCTTCTATATTCTTTCCCCACCACAAAAAAGAGAAGAAGAAGAAA
AGTCAAAGCCTAAAGTTTTTAAATTCTAGATTAATAAGTTGGTTTGGGCTAGTTACAAC
20 TCAACCCTTGGAAAGAATAAAGGAAATACTGTTAATTACCCCATATGAGATTTAATAGA
GAAAGGCTTAAGGGAAGACCACCACCTAGTGACCAAAGGCAGGATGACATTTTCAGAGCA
CCTAGCTGGGCTGGCAGGCAGCAATCTGTTTTCTCTCCAAGTGACTGAGAAGGGAACGT
GGGCCAGGCACAGTTGTTTACACCTGTAATCCCAACGCTTTGCGGGGCAGGAGCGGGCA
GATCACTTGGCGTCAGGAGTTCACAACCAGTCTGGCCAACATGGTGAAACCCCGCCTCTT
25 CTAAAAACACAAAAATTAGCCAGGCATGGTAATCTGTGGTCCCAGCTACTCGTAAGAAGT
AATGCTATAAAGTGTAAGAAGTGGTAAATGCAGAAATTAACAGTTATGCTTTTCCATTA
GCCACGCCCTCACAGACAGCATCTGGCTTACAAAAACAAACACTGAAAGTTACAACAACA
AAAGTGAAACATACTTCACCAAAACCAAAATTCAAAGCCTTGGAAATAGACCAATTATGCT
AAGTGCTAAATGACATGGCAGCAAAATTACTCATATAAGGAATCGTTTTCAAGTTTGCTAA
30 ACTATTTTAAATCTTTCAATCTAAAGCCTTAACAAAGATGAGCAGCACTAGCTGTTTCCA
CCCTTTGATTATGATAAATTCTCTCCACTTTCATTAATAAACTGTAACCATATTAA
CAATCCTTCCGTGGAATCTGTCCACCACAAGTTGATTGCTGTTTCTTCAGCATCTTC
AATATCTGCCGGGATGC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 226>:

GNMCJ39R gnm_226

GGGCTTGGCTGATCCATGGAGATATCTGCAGCTTGCCAGCAGCTGAAGTCTTTATTTGCC
TTTATCTCCGTTGTGGCCTCTGATGAGCCAGACTACAGAGATGCTGATGAAATCTGGGAG
40 GCAATGGTGGAGGCTGTAGTTTCCAGGAGAACTCTGGCCCTGGGGAATTCTTCCAGTC
TCTGAGTCCCTGTGGCACATCTCCATGTGTGGCGGACTAGGTGATTGCTCCTAGTGATTC
TGCTTAGTTCCCTTTATTAGAATTATAAGCTTTTGGCATGTGACTTGTAGTACATCTCA
ATAGGTAGAGTCTAATTCCTTGCCCTTCTAAGTTTGGGCTTTGGTCATTGGAATGTGAGC
AGACACATTTTCCCCCAGCAGAAGTTTTAAATGTGCTGCATGATTTGACTTGACCTCTTG
GCAATTGCGTCTCATGTGAAGGGACATGTGGAGCAGACCTGAACTCAACCCAAACCTTGG
45 AGCCAAGCTGAGCTCAGCAGAACCTAGCTGAGCGCAGCCAAGCCAAACCCAGTGTAATCA
AGCCAATCTCGAGACTCAGAAGCAAGAAACAATATATGTGATAGGGATCTATTGGGAG
TTGAGAGCAATTTCTCTTTTAAAGTAATTGTGATCTTTTGGATGGAGTCTCACTTTG
TCACCCAGGCTGGAGTGCA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 227>:

GNMCJ40R gnm_227

5 CAATAACTTTTTTGTATAGCCATTTCATTGTCTAGATCAATGACAGAACAACATATTTTC
TTTTTCCCTCAAAAGCCCGAGTGATCATTAAAGGAAGGCGATGTAGATGTTTCAGATTCTG
ATGATGAAGATGATAGTAAGTATAAAAAGGTTAAAGCCTGGGCACAGTAGCTTACACCC
ATAATCCCAGCATTTTGGGAGGCCAAGATGGGAGGATCACTTGAGGCCAAGAGTTTGAGA
10 CCAGCCTGGGCAACATAGTGAGACCTTGTCTCTGCAAAAAACATTTTTTTTCAAATATT
TTCTTAAAAAGGCTTAAAGTAGAACTAGGCAGGGTAGTGTGTCTTTAGTCACAGCTA
CCTGGGAGGCTTAAAGTGGGTGGATTGCTTGAGCCCAGGAGTTCAAGCTCTGCCTGGTGGC
AAGACTCTGTCTTCTTAAAAAAGTAAAGCACAGAATACCTGGCATCTATTCTA
ATAAGTAGACTGCAACAAATGACAACCTTTTGATGTAATCTTTTGTATATTACCATTG
ATATGCAGTCAGTTGCTCTGAATGCATTATTATATAAATAGTCCATTTAATTTTCATTG
ATGCTGGTGGAGAAAAGTCTTGAAATT

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 228>:

GNMCJ40F gnm_228

20 CCGGGAGGCCGAGGCAGGCAGATCACAAGGTCAGGCGTTCGATAACAGTGTGGCCAATAT
GGTGAAACCTTGCTCTACTAAAAATACAAAAATTAGCTGGGCATGGTGGTAGGTGCCTG
CAGTCCCAGCTAATGGGGAGGCTGAGGCAGGAGAATTGCTTGAACCCGAGAGGCAGAGGT
TGCAGTGAGCCAAGATGACGCCATTGCACTCCAGCTTGGGCGATAGAGTGAGACTCGGTC
TCAAAAAAGAAAAATAAAAAAAGACAGAAAAAGAAAAAGACCTAATATCATCTA
AAATGAAATCATACAAACAACCTTTCCATGATGTTCTCAATGAAAAGATTCTTACCAGT
25 GTTCTCTCTGATTTTCGAACAAATGGAATTTTCCACCAGTATTGGCATGAGAAACCAC
GGTGCCCTATTTTAAAAAATTAATCAATCCATGTTGACTTTACTTTCTAGAAAAGGAA
TAAAAAGGAAACTACCATTCTAAAAGCAAATATCGATAGACATAGGAGGCCAAACAGGAA
CCCTTACCTCAAAGAACTGGAACCTTTTGTGTTTTGAGACGGAGTTTCGCTCTTGTG
CCCAGGCTGGAGTGCAGTGGTACAATCTCGGCTCACTGTAACCTCTGCCTCCCGGGTTCA
AGCGATTCTCCTGCCTTAGCCCCAAACAGCTGGG

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 229>:

GNMCJ41R gnm_229

35 ACCCTGATGATAAATTAACAACAGAATAAAGGTCACCTCTGGTTTTACCTAACAAAACCTC
AAAAGGAAGCATCAAAAGGATCAAGCTGATTGAAAGTAACCTAAGTGTATGACAGAACA
AAGCCCAATACTCTTCAAAGAAATACAACTAAATCAAATACTCAACAATGTAAATCCAC
AATGCTCATCACCCAATCAAATTTGCTAGGCTTGCAACAAAAAAGAAAATATGACTCA
TAACTAAGAGAAAAATCAGTCAACAGAAACAGACTCAAAAATGACCATCATGAGGGAATT
AACAGTAAGGATATGAAGGCAGCTCTTATAAATATGGAATAGTTAAAAGACCCAGAAACA
TCCACCCACCTGTCCCGGGGTCCATTCTGTTTGCCAGCTTAGGGAAGCCACAGTGTCTAT
40 GGAGCTGAGGTCCAGCTGCTCCAGCTCACTCTCATTAAAGAGCCAGAGCAATGCGCCCCAG
GGAGACGATATGGTGTCTCTCCAGTAAGATGGCATGTCCCAACCTTTAGGCAAAAAA
GGAAATAGATTAGCTGAACACTGTGATGGTATTTACAATGATTTGAATGTTTGTGCCCC
TCTAAATGCATATGTTAAACCTAATCTCCAATGTGATAGTATTGGAAGGTTGGGCCTT
GGGAGATGATTAGGTCATAAGGGTGGAGCCTCATGAGTGGGTTAGTGCCTTGTA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 230>:

GNMCJ41F gnm_230

5 CCTGATCCAAATAACAATATAACAATAAAAAACAATACACATAAAAAATACAGTAGCATT
TTGACATAACATTTTGTACATATTTACATAGCACTTATATTGCATCAGGTATTATAACTA
ATCTAGAGATGATTTAAAGTATACATGAGGATGTGCATAGATTATATGCAAATACTACAC
TATTTTATATAAGGGACTTGAATATCCATGGATTTTGGTATCTTTAAGAAGTCCTGGAAC
CAATCCTTGGTGGAGGTATCCACAGGGGCAACTTCATTTATTTATGGTTAGTTCCTTATT
TATTTAGCTAATTGTTAGACTTTTCAGGTTGCATTAAAAAATGCCTCAATGTATGCCTTT
10 ATACATATACTGTTGGGTACTTGTCTCATTCTACTCAGGCTAAATTCCCAGAGGTGGAATT
TCTGGGTCAAAGAATATAAATACTTTAAAAGCTTTTGATACAGATAGCCAAATTGCCCTC
TCAAGAGTATGTACCAACTTATATTCTCAACTACAACAAATGAGGGGTACCCTTACCTTG
TATCTTTCCAGTATCGTAAATGGTGATAAGTCTTTTACTTCTTGACATGTGAAGAATCA
ACA

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 231>:

GNMCJ42R gnm_231

CGAAAACGTCTAATGCGTAACCGGAAAAGGCGTTCACGCGCnATCCGGCCACTTTTCAGT
TTTACTCTTTCTCGGAGTAACATAACCGTAATAGTTATAGCCGTAACGTAAAGCGGTGC
20 TGGCGCGTTTAAATCACACCATTGAGGATAGCGCCTTAAATATTGACGCCCTGCCTGTTCCA
GACGCTGCATTGACAAACTCACCTCTTTGGCGGTGTTCAAGCCAAAACGCGCAACCAGCA
GGCTGGTGCCAACAGAACGCCCCACGACCGCGGCATCACTCACCGCCAGCATCGGCGGCG
TATCGACAATCACAGATCGTAATGGTCGTTCCGCCATTCCAGTAATTGACGCATCCGAT
CGCGCATCAGCAGTTTCAGACGGGTTAGGTGGCACCTGACCGCGAGTAATCACATCAAAGC
25 CTCCTTTGCCAAAATGCTGGATCACTTTGTTGAGCTCATCTTTACCTGCCAGATATTCCG
ACAAGCCATGTTTACTTACCGGTAAACAGGTTATGCGAATAACCACGGCGTAAGTCGG
CATCAATAAATAACACTTTTTGATCGGACTGGGCGATCACCGCTGCCAGAGTTGAAGTGA
CAAACGTTTTTACCAGTGTCTGGCGTCGCACCGGTGATCAT

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 232>:

GNMCJ42F gnm_232

CCGGCAATGGCTGGAACAGAAAGAGATCCCGGATCCCTATCGTAAAAGTCAGGACGCATT
TGAACATGTCTACGGTATGTTGGAGCGCGCCAGTCAGGAATGGGCGACGCCTCAGCCGGT
AATTTGAGTTTATAAAATACGATGACAATAAAATATGAATACGCCACCAGGCAGCACT
35 CAGGAAAATGAGATCGATCTGCTTCGTCTGGTCGGCGAGTTATGGGATCACCGTAAGTTT
ATTATCAGCGTGACCGGTTATTACGCTGATCGCTGTCTGCTTACTCGCTGTAAAGCACA
CCAATTTATCAGGCAGATACTCTGGTCCAGGTTGAGCAAAAACAGGGCAACGCCATTCTC
AGCGGCCCTGAGCGATATGATCCCTAACTCATCGCCGAGTCTGCACCGGAGATCCAACCTG
CTGCAATCGCGCATGATTCTCGGTAAAACCATGCTGAACTGAATCTGCGCGACATAGTT
40 GAGCAGAAGTATTTTCCGATTGTGGGTCGCGGCTGGGCGAGATTAACCAAAGAAAAACCA
GGTGAGCTGGCGATCAGCTGGATGCATATTCCACAACGAATGGTCAGGATCAGCAACTG
ACACTCACGGTTGGGGAAAACGGGCACTATACACTGGAAGGTGAAGAGTTCACCGTCAAT
GGTATGGTCGGACAGCGTCTGGAAAAGATGGCGTTGCGCTGACTATCGC

45 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 233>:

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GNMCJ43R gnm_233

ACCCGGCGGAAACACCCGAGCAGCCGCTCGGTGCCGAACAGTTTGACAGCCCCGAAA
 CAGGACATACATCAGCCCCGCGCAATGAGCCCCCGCCGCCGTGCCGGGCCATCTC
 5 CTTGATGACCAGCGCCGTGCGCGAnTAAAGGCGAACGAACCCCCAGGAAATCGGCAC
 CTGCCCCGCGGTGACAGGTGAAAAATCAGCGTGGCGACCCCGCCCCGAACAGCGCCACC
 GAGGGCGACAACCCACCGAATCGGCACCAGCACCGTGGACCCGAACATGGCGATGGAA
 TGCTGCAACCCAGCACCACCCGCGCTGCGGCGGGAGATCGGGAAGGGGGGCGGCGCG
 GCAGTCTCGGTGATGGGAAAGTGTAGTGGCGAGGGGAGGAGACGAGAGACAGAAACAT
 GCTTCTGCTGTGGCCCTCTTTTCGTGCTCCAGCTCCAACGGAGAAACGCAAGCCAG
 10 GCCCGTGTGCGACGAATGCGGnAGCCTCGCGTGTGTAGAATACAGAGCATCAGACCAC
 CCCAGCACTTGAGGAACACTGACCTGCACGCGCCATCACCGAAGGTGCATAGCGCCAC
 GTTTAAGGCCCTGCCCTCTGGGGTAAGGGGTTAGGGGCGGGGCAAAAGCTAAAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 234>:

15 GNM CJ43F gum_234

[illegible]

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 235>:

GNMCJ45R gnm_235

25 GTAATCCCAGAACTTTGGGAGGCCGAGGCAGGTGGATCACAAAGGTGAGGAGATCGAGAGC
ATACTGGTCAACATGGCGAAACCCCATCTCTAATAAAATACAAAAATTAGCCAGGCGTG
GTAGCGCACGCTGTAGTCCAGCTACTCAGGAAGCTGAGGCAGGAGAATCACTTGAACC
CGGGAGGCAGAAATTGCAGTGAGCTGAGATCATACCACTGCACTCCAGCCTGAGTGACAG
AGCCAGACTCCATCTCAGAAAAAAAAAAAAAAAAAAAAAAAAATATATATATATATAAAT
30 ATAAACCAGTCTAGGATCAGACTTCAAGTTTCACTGAGCTGGAAGTGGCTGCCAATGCT
CCCCAGCTCTTTAGCAAAAGACATTTACACAGTATTTGATTGGAGGCATTGGGGAAA
ATGAAGGAAGTGGGGAGCAATTACAGGGTGCAGTGACTTTAATCATCAAGAGCTAATTACA
AGAGCCGTGGGCAATGACAGATGCCAAACAAGATGGAGGAATCAACTTTTATATAGACT

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 236>:

GNMCJ46R gnm 236

CCTTCCAAGGTGCCAGCTCTGGAACGAAGGATGCCCTTGGGAGGTGATGACACTCAGGTA
 CACGGGTGCTCAACAGATTGCTTCTCTATCCTCAGACGGTCTTGCATGCATGCAGCC
 ATTGGCACTCCCATTGTGTGGAAGGAAACCAGCCAGGGTCACACAGCTGGTCAGCAGCA
 40 ACATAGCTGGTCTCAAATCTAAGGTGCCTGACCATGCCTCCATGAGGGACCGCTCCAAG
 GGAGGTTGATCCTGGCTTTGGGGAGCCTTTCCTGGGCTGCACGAATAACCTCCATTGTTT
 GAGACCCCAAACCTCTGCTCACATCTTCCCTTCCCTATCTCTGCTTGGGCTATGATCACGG
 TGACTCTAGCAGCCCTTCATGGACATTATAGTACTCTCTGCCATTCACTTTTGCTCTAA
 CTGACTTACACCCCCACTTACTTGGTCTCTCTCTTTACAAACCACCACCAACCGAAATCTAG
 45 GGCTGCTTTTAAAAAATTATTTTTTTGAGACAGAGTCTCATTCCATTCTGTCAACCCAGGC

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TGGAGTGCAATGGTACGATCTCGGCTCACTGCAACCTCCGCCTCCCGGGTCCAAGGGATT
GTACTGCCTCAGCCTCCTGAGTAGCTGGGATTACAGGCGTGCCACCATGCCTGGCTAA
TTTAAGTATTTTAGTAGAGACGGGGTTTCACATGTTGGTCAGGCTGGTCTCGAACTCCT
AACCTCGTGATCGCCTGCCTAGCCTCCAAAGTGCT

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 237>:

gnm_237

CCTGGTACATTTACAAAAATTAACCTGACTTATTTTGTTCAGCAAATCTCAATATATTT
GAGAGCAATCAAATCACACAGCATGTTTCTGATCATATAACTGTGCTAGAAGTCAATGAT
10 TAAAAGCTAATTCAAATATTATTTTGTCTGGAAATTCAAAGTGCCCTTATAAGACATAA
ACATAAGAAAGAATCCAAAATGAAACAAGATTGCCTTTCAACTCAATGATGAGATCATAA
CATGGCAATAAAATGTCTCCCTCTGGCCTGGGAATTCCTCTTGTGGCACAAGGTTGTGT
GATCTCAAATCACCGCTAACCCACCTAGACATTTTAACATCCGAAACCGAGTGATGACGT
CCTTATCTATATCATCTTACTGCCTGTGTGTGTGGACTTTAAATTCTGAACCCAAATGAG
15 GGGGAGAAAACCAAGTTGACTTTCATGACTGAGCTCTCAGGGACGTCCAAGGAATCTGTG
CATTTCAAGAAACAAAGTTCATCAGCTTCTCTCCTAAGGTATTGCCCACAATACCCAGA
GGGcTTGGCAGCATCATGTGTGATGGGTGGGAGCTCCAAGCAGGTGGGCAGGACCCAGG
GGCCTGGTGACCAGGACAGACCCCACTGTCCATCACCTTCTGGCCCTGTCTCTGTCT
AAACTTCCACAGGCCTTCTGCAGGATCACACAGAGTATGCCCAAATCTCTCAGGCCTC
20 TGGCAGCTGAAAACCAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 238>:

GNMCJ47R gnm_238

CGGGGGGAAAAAGAATAAAAGGATTTAAAAATACAACATATGTTATTTTGGGATGGAAA
25 TTCATCTGATATACACACGTTCAAGGTGTCCAGATTAGTGCTTATATCACACCCCAACA
CAATACACAATTATGGTGCAAGCCTGTAACTGACCTAGGTTCATGAAGGAATTTAAATAT
AATAAACCAAGCCCTTTTACTACATACTTATATAAAATCGACAACATATCACATGATGCT
CTATGTCAAGGTAGCCTCAACAAATTCAACATTTATTCTAGCTCTGATATGGTCTGGCTCT
GTGTCCCCACCCAAATCTCACTTTTATAATTTATTTTTTTGAGGCAGAGTTTGCTCTT
30 GTTGGCCAGGCTGGAATACAATGGCAAGAACTGGGTCAACGGAACTCCGGCCCCCAGG
TTCAAGAGATTCTCTGCCTCAGCCTCCTGAGTAGCTGGGATTACAGGCATGTGCCACTG
TGCCAGCTAATTAAGTATTTAAAGTAGAGATGGGGTACTCCATGTTAGTCAGGCTGGT
CTCGAACTCCTGACCTC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 239>:

GNMCJ47F gnm_239

CGGGTCAGGAAGGGATTCCCTACGGAAGTGATTTTCTGTTTGGCCTTTCTTAAGGGCAG
ATTATAATTATAAACAGTTAAACTTTGTTTAAAGGAGGCCCGCACTAAGGTGCAGTGGGA
ATGAAAGGAAGTGGTAGATTCTAGTGACATTGTGAGGAAAGGTGAACTGGTCTTGAGAC
40 TGGTTTGGAGGAGGGGAGGCAGACAGTAAGGGAAGGAATCCTTCAATAGTTGCTCCCTG
TGAATCGAATCTTGGTGTGGCATTAAATGGTAGTTAGAAATATGAAGAGGAGGCTGGGT
GTGGTGGCTCACGCATGTAATCCCAGCACTTTGGGAGGCCGAAGCGGGCGGATCACGAGG
TCAGGAGATCGAGACCATCCTGGCTAACATGGTGAACTCTGTCTCACTAAAAATATAAA
AAATTGGCCGGGTATGGTGGTGGGCACTATAGTCCAGCTACTCGGGAGGCTGAAGCAGG
45 AGAATGGTGTGAACCTGGGAGGTGGAGCTTGAGTGAGCCAGATTGTGCCACTCTGCTC
CAGCCTGGGTGACAGAGCAAGACTCTGTCTCAAAAAAAGAAAAAATATGAAGAA

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GAGGCAGTTGGAAGAGTAGTTCCATCTTGCCAGGTTGAGTTGCTGGTGGGCAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 240>:**gnm_240**

5 CGGTAGGTTTCAGTTCCAGCTCTGCCTCTTATTGACTGCAACCTCAGGCTTAACCTTCAG
TCTCTGAGCCTCAGTTTCAACTCTGTAAAATGAGGTGGCTATACCATCTCAGGTTGCAGA
GAGAATTAAATGAAATATAAGTGCATGTAGAGCATTGAACCCAGGGCCTGGCACACACAG
TGAGTACACAATGTTAGCCAGGTAGCTTCATAATGCATACTGATTGTCAATATTCAGACA
ATGCAGTAAAGTGTACCAAAAATAAAAGTAACTTATTTGCATATGTATCTTTCAATC
10 TTTATTTTTTAAACAGGGTAAACTATGCATATCTTTCATAGCCAGTGTTTTCTCTTCA
TAGTATATTGTTAAATAATTTTACTTGGACCGGGTGCAGCGGCTCACACCTATAGTCCC
AGCACTTTGGGAGGCCCGGGTGGGCAGATCACGAGGTGAGGAGTTGACACGAGCCTGGCC
AATATGGTGAACCCCATCTCTACTAAGAATACAAAATTAGCTGGGCATGGTGGCACAC
ACCTGTAGTCCCGAGCTACTCAGAGGCTGAGGCAGAGGAATTGCTTGAACCCGGGAGACAG
15 AGGTTGCAGTGAGCCAAGATTGTGCCATTGCACTCCAGCCTGGGGGACAGAGTGAAACTC
TGTCTCAAAAATATGT
TGTGTGTGTATGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 241>:**GNMCJ48F gnm_241**

CCTGACTCAATGTCACTCAATTGATTCTGAGTTCAGTCTGATTACATCCGACCAAACCTG
CTTTTTCTGAAGTCTACTCCGTTTAAATCATGCTGGTGATGATTTTGTGCGGCTCTGGGAC
AAACTCCACCTGGCTGAAGATAAAGCAAATCTGCGGTGACTTAGTCTCCTGTCAATTTCC
25 CATCAGTTCCCCACTCTCCTCCTCTGCCCCCTCCACAGTCTCCCATGCAGGCTGACACCAT
ATGACGGCCTTAATGGAGTCCACCGAGTATTTGAGGTTCTCTCCTGGGCCACTTGAAAGT
GGATGTACCCATGGGATTTGCTTTGACCCAGGAGATGTGCGTGGAAAGTGAAGCGTGTAC
CTCGAGGCAAAAGAGTTGGGAGCCATTGAGACGGGCCACTCTCCTTCATCTCTTAGAG
CAGCTGACAGCTCCCATATGGAGGCTGCTCCTTTATTCTCGTGGCAGGATGAGGGCATGT
30 GGGGCACAGGGCACAGGAGAGCCATGGAGGATGTGCAGCATGGGCAGGAAAAGAGCCTTC
AGTGGTGATACATTTCCATAGTTTGGGGCTGTTTCTTACCTACAGTGATACCTAGCCCATC
CTAACAGGCATGCACCATCTACTCCACACTCTGTGATGCAGACTAGCCTGCCGTGAGAAC
ACGAACTGGTGGTCAGACACAGGTAGGTTTCAGTTCCAGCTCTGCCTCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 242>:**GNMCJ49F gnm_242**

AAGTAAGTTCGGAAGTACATTTATATGTCACCATTACTAATACACTTGGGGTAAGGTG
TATTCTCAAACCTCAATGTTTCATCCAGCCAGTCAAGGTGCCTTGGAATTTGTGTACCCCTC
CTCAGCCCAATAGACCTTGGGCCTCTGAAGAAAACCTATTGGAAGAAAGTTTCAAGTGGGC
AGTCATGGGATTGTTTTAGTGTGGAAGGGCTAAGAAAAGAAAAGAATTGTGGACAACATA
40 AGATCACATCTCTGATGTGAGCAAACATGATTTAAAGGGATTGTTGGCTATGAACCAAAA
ATCATTTAAGGGTATTTTGTACTGGAGAAGGCCAAGGACAAAAGATATAAAGTTTCCCA
TCCTTGGGATCATGAACCTCAAAGCAAAAGCAAAATGGATTAATAGCTACTTCTATTTATA
GCTACTTCTGTTAATAGCTACTTGAGCATGAGCAATGGTTAGATTTTAATTCTAGAGTTT
ACAGTGAGAAATACACACATTCTAGGATTACTTAACTCACTAGTCAACCTGTCCCTCTC
45 CTTATGATGTTGACCCAATGACACTAAATCCCTTGGGCATCATGATTCTTGAATGCGGT
CTCCAAAGAATGCTGCCAACACAAAGGGGATCATGAAGAGACTGTGGGCCTTGCTTCCAA

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TTTTTCTTCTTCTTCTTCTTTTTTAAAGTCATATGTGCCCTGACTCTTCTGGCCAGTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 243>:**gnm_243**

5 GTACCCCTACTAAAAACACAAAATTAGCCAGGCATGGTGGTGCATGCCTGTAATCCCAGC
TACTTGGGAGGCTGAGGCAGGAGAATCACTTGAACCTGGGAGGCAGAGGTTTCAGTGAGC
CAAGATCGCACCATTGCACTCCAGCCTGGGCAAAAAGAGCGAACTCTGTCAAAAAAAG
AAAAAGAAAAGAAAG
10 TAGAAGGATGGGTTTCATGGGTTTCATCGAGAGACAATAGCTTAACAACCAGCACACCATAG
TTGGCAAAACACTATCATTGAAAAAAAACATGCTCAAAAGGGGAAATGCCAGTTTGGGT
AAATATGCTTTTGTGTTGGAGAGAAAGAATTTGGAACAGGCTTTTCAGACCCCTTAAGG
CCCAACAAACAAATTATAATTTAGACAAGTCTGGGATTCTTCACAGCTCAGCTTGTGGTG
ATGGTATTAGCTTCACAACCTCCAACAAGTTAAGCTGTCTGTGTGAAATCTCCTCAACAA
CACCTCACTGGCAACCTGGAGGTGCTGAAAACAGAGCTTTCATTCTTGTGCAACCA
15 AGGGAGTTGAGTTGGCAGATGGGCACTGTGTCCAGCCTTGGGAAAGGACATCGCAGACTT
TGCATCCTAAGAACTCATAACCACAACGGCAAGGTAAGACACAAGCTCTTGAAAGTTTCC
ATCACAGTGCAGCACAAATGACCTTGGCTATGTGCCCTGTTATTGCTGGTCCCTGCTTAA
AAATCTCCTGTGACTTCCAACCACACAAATTTCTACCTGGTTGCAAAAATGCCCTTGAT
AATTCACCCCTCCCTCTATCTTGCCCCCTTTACAATGTGGCTTGGCAGCTCCTCCCATCA
20 AGAGTTAAATCTATTTCTCACCCTTGAATCTAGGCTGGCCATGGGACTTGCTTTGGC
CAATAGATGTGGCAGAAATTATGGCGTGACAGTTCTAAGCATGAGTCTCAAGAGGCTTTG
CATGCAGCAACTTCTCTTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 244>:**GNMCJ54R gnm_244**

AGGCCAAACCCCTTAGGTTTTAGGGTTTTTTCTTTTTTTGAGATGGGAATCTCCCTCTG
TCGCCAGGCTGGAATTCAGTGGCATGATATTGGCTCGCTGCAGTCTCCGCCTCCTGGGT
CAAGCAATTTCCCTGCCTCAGCTCCCGAGTAGCTGGGACTACAGAAGTGCCTACCACA
30 CACGGCTAATTTTCGTATTTTGTAGTAGAGACGGGGTTTACCATTGTTGCCAGGCTGGT
CTCAATCTCCTAACCTCATGATCCGCCCCACCTTGGCCTACCAAAGTACTGGGATTACAGG
CGTGACCCACCTCACCTGGCCAAGTATTGGTTTCTTAACAGATTTTGCCATTGGACAGAA
CGGACCTGATAGAGCAAGATGTCAAAGACTCCCTGACAAGTAAAAAAGGGGCCAGGCAT
GGTGGCTCACACCTGTAATCCCAGCACTGTAGGAGGCCGGGGCAGGTAGATCACTTGAGC
CCAGGAGTTTGAGACCAGCCTGGGCAACATGGCAAGACCCCATCTCTAGAAAAACAAAA
35 TTAGTGAGCAGCACAGGCCTGTAGTCCCAGCTACTTGGGAGGCTGAGGTGGGAGGATCCC
TTGAGCCCCAGAGGTGGAGGCTGCAGTGAACCAAGATCACGCCACTGCATGCTGGCTGGG
GTAATAGAGCAAGACCCTATCTAAACAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 245>:**gnm_245**

40 CAGAACAAGGGGTCTGGGAAGAATGACAGCATGACTGAAGGGCTCCGTCTGGAAAGGAA
GGATAGTGTGCCACCAGGAGAAGGAGAGACCCACCCAGACACCAACAGCTGAGACAATCCC
AGCCCTGGGTTTCATGGCCCAAAGTCACAGCCCACTCACCAACCCCAAACATACCCCT
GTGACATGTGGCTGAGCACAGACATCTTCTCTCACCTTGCTGAGGATACCTTGCTGCT
45 GGGCAGGTGACAAGTCGGATACATACTGGGAGACGGCACTTCTCAGGACCTGCGAGATGT
CCTTGCGTTTCATGCTGCAGAAGGCCTGGGTGCTGACCCAGCCAGCAGTGCGCCCATCT

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5 GGCTGACATTGTAGAAAGACAGCACCTGGAAGAGGAGCGGTGCGCAGTCAGGCTCTGCTC
CCGCCCTTTCACCTCTCCAACGTGCACTCAGCCCATCTATGTGCCAAGTATAGGGATGGGT
GACACCTTAGGGGACAGCAGTGAGCCAGACAGATGCTGCCTCCACAGGCCTTCCTTCCT
TCTATCAAGAAAGAGAGTTGGCCAGGCATGGTGCTCAGCCTGTAATCCCAGCACTTTGA
GAGGCCAGGCGGGTGGATCACCTGAGGTCAAGAGTTCGAGACCACCTGGCCAACATGGTG
CAACCCCATCTCTACTAAAAATACAAAATTAGCCAGGCATGGTAGCAGGTTCTGTAAAT
CCCAGCTACTTGGGAGGCTGAGGCAGGAGAATTGCTTGAACCCAGGAGGCAGAGGTTGCA
GTGAGCTGAGATTGTACCATTGCACTCCAGACTGGGCAACAGAGCAAACTCTGTCAGA
AAGAAAGG

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 246>:

GNMCJ56R gnm_246

15 GACTACAGGTATGCACCACCATATGCTGCCCAGGCTGGTCTTGAACCTCTGGAGAGAGAT
ACATACACACACACACACACACACACACACACACACTTTTTTTTTTTTTTTT
AGACACAGTTTCGCTCGTCACCCAGGCTGGAGTGCAATGGCACAATCTTGGCTCATTGCA
ACCTCTGCCTCCTGGGTTCAAGCTATTATCCTGCCTCGGCCTCCCAAGTAGCTGGGATTA
GTAAGGCACTGCCACCATGCCTGGCTAATTTTGTATTTTAGTAGAGACAGGGTTTGTCT
ATGTTGGCCAGGCTGGTCTCAAACCTTCTGGCCTCAGGTGATCCACTTGCCTCGGCCTCCC
AAAGTGTTGGGATAACAGGCATGAGCCACTGCGCCGGGCCCATACATATGCATTTTAAAA
20 AATTTATTTATTTATTTTCGAGACAGGCTCACTCTGTTGCCCAAGCAGGAGTGCAAGTGG
TGCTATCTCCAGGCTCAAGCAATCCTCAGCCTCCGAGTAGCTGGGACTACAGGTGTGT
GCCATCACACCCAGATAATTTTAAATTTTATTTTAAATTTTGTAGAGATGGAG
TTTACCGTGTACCCAGGCTGGATATTTTGTATTTTGTAGGCCTGTACAGTTTCCA
AAGTTGCAACCTTTCCCCCTCCCTGAGAGTAGGG

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 247>:

GNMCJ56F gnm_247

30 CTGTTTAAACACAGTAAGCAGGAGCTCGATAAATATTAGGAATCATATTACGCTAATTGTT
TTACAAGGTTTCTTCACTTACACGTATAAATTAATGAAAAACATAGCATCCTAATGAC
TCTGAAAGTTAAACGCCAAGAGTGCTATGGGGTTAGGGATTTTAAAGTGGAGCAAAAT
AAAGACTGCGAAACAAATACGTGTGCGAAACAAATTTCAAACAAAAAGATGTAATATT
CAATTTGCCATGAGTGACAACGTTCCGCTGATAACCCACATAGCCCAGGGAAATCCCTTC
CAAATTTGGACGAAGAAGAGGGAAGGAAGAGGGGTCAAGGCGCAGAAGGCAGTACCCAGG
CCTGGGAAATCACGAAGAGACACAGTCGGGAAAGTGGGCCTCCAGAACAGAGAACATACT
35 CACTTTTCCAGGCCCCACCCATGTCTATTACCCAGTTAGGAGGAATGAGCTCATTCTGT
GAACGTGAGATGACCCCTCGACCCCGTGCTCCTATCACACGCCATTAGCTTTGTCCACAT
CCTTTCAATCCGCTCCTCTAAGCGCGGTCTGAGCTTTGGTCCCAGACGCGCAGAAGGAA
GCGGCCTGAATCTTACCCAGTCCTCGACGCGCCAGCGTCTTGACTGCAGAGGACGAAGC
GGCCGCATCTCCCGACAAACAACGTGTGAAGCAGCGGTGCCGCCATT

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 248>:

GNMCJ57R gnm_248

45 CAAATTTGGTGCTTAACGAATATTTGTTGGGTGGATGAAAGCAAGCACTGACTGTCAACT
ACTATCACTGGGGGTGATTAACCTTTGTCTCCTCATGCCTGGCCCCAGTCTGCACTTAGTA
GGTGCATGGTAATAATAATAAATATCTAACACTTGGACAGGCATGGTAGCTCACATCTA
TAATCCCAGCACTATGGGAGACCAAGGCAGGAGGATCACTTGAGGCTCAGAGTTCAAGAT

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5 CAGCCTGGGCAACACAGTAAGACCCTATCTCTACAAAAAATAAAAAATTATCCAGATGT
GGTGGTTCATGCCTGTAGTCCCACTACTTGTGAAGCTGAGGTGGGAGGATCCCTTGAGT
CCAGGAGGTCGAGGCTGTAGTGAACCATGATTGCTGCACTCCAGCCTGGGTGGCAGAGCG
AGGCCCTGCCTCTATAAAATCAAATTTTAGGCCGGGGCAGTGGCTCACGCCTGTAATCC
CAGTATTTTCGGGAGGCCAAGGCAGGTGGATCACCTGAGGCCAGCGTTCAAGACCAGCCTG
GCCAACATTGTGAAACCCGTCCTTTACTAATAATACAAAACCTAGCCAGGCGTGGTGGCAC
ATGCCTATAATCCCAGCTAGTCAGGAGGCTGAGGCAGGAGAGTTGCTGTAATCTGGGAGG
TGGAGGTTGCAGTGGGCCGAGATCATGCCGCTATACTCCAGCATGGGTGACACTCCAGCA
AGACTCCATCTCAGGGAATAAAAAAATCAAA

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 249>:

GNMCJ57F gnm_249

15 CCAGAAATCTGCCCCATGATCCAATCACCTCTCACTGGGCCCCACCTCCAACACTGGGG
ATTACATTTCAATAAGATTTGGGTGGGGTACACATCCAACTATGTCAAATATAAAGTTT
AGTAAAAACTTAGAAATAGCACCAAAACCAAAAAAGGGGTAGGTACACATACATTTTTTTT
GTTTTTTTCTGAGACAGGGTTGTACTCCCATCACCCAGGCTGGAGTGCAGTGGCATGCTC
TCGACTCACTACAACCTCAGCCTCCTGGGCTCTGGTGATCCTTCTGTCTCAGCCTCCTAA
GTAGCTGGGATGACAGGCTCATGCCACCACGACTGACTAATTTTTGTATTTTGTAGTAGAG
ATGGGGTTTACCATGTTGGCCAGGCCAGTCTTGAGCTCCTGACCTCAAGTGATTTGCCT
20 GCCTCGACCTCCCAAAATGCTGGGATTACAGGTATGAGCCACCACACCTCGCCTAACCTA
CATTTTTTGTGATATTACCAGATTGCTCTGCTAATAGTGCACAGTTTGACAGTCCCACG
GAAAAATGAATGTGCCAGCATTAAGTATTAGCACTTCATTTTATTTTGTGACAATCTGAT
GGGTGAAAAGTGATTTACTTATGTTTTTTAGACTTTATTGGATTTTCATTGAAGTTGAGT
ATCATTTTATAGGATTCTATATAGAGACCACATTAGTGGGACTAGGGGATAGAT

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 250>:

GNMCJ59R gnm_250

30 ATCAGAGTCACTTCATCTTCTGTGAAATTTGCAAAGATGCTAGGAGGTTCCCTCCTGCT
GGGACACCCAGCCAGACACAAACCATTAATTCACAATTACATGGAGTTTCACTGTCTG
CAAGGCTGCTCCATTTAAGCTCTGGGTCATGAACACATAACTCTAGGCATACTGACACTA
GCTGGGAGATTTTCCACCAAAAAAAAAAAAAAAAAAATGCCATTTTCATGACTATTAATCCA
AAATAGGTAAATGTGTCTGGCTTATAGAATACCAGCCTGATTACAAATGCTTGGTGTGG
AATGGCCAGCTCACAGTGGTGTAGAAAGTCCAGTAGGCCAGGCTTTGTGGCTCACTCC
TGTAACCCAGCACTT

35

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 251>:

GNMCJ59F gnm_251

40 CCGCCAAGCCGGGCTCCGCAGTTGAGGCGCGCGGGGGCCTGGGCGGAGGACTCACGGG
GCAAAGCGCTGGGGGAGCGGGTGGGCGCCACCGCTGGGCCCTCCCTAGGGAAGGGGTGCA
GGTGATGGATGGCGTGGGGGACAGACCGAGAGAAAGAGGGTGGGCAAAGTGTGGGTGCAG
CGGCTTTAAGGGCTCCTGGGATTGGAGGGCACTTGGAGGGGGGGACGATGAACTTCGA
GAAAAGGGATCCAAACTACTTAGTAATATAATAACAGCGATGACAACGTGTGCAATAAC
TATCACAATGATTATTTGTTATAATAATATAGCAGCAGTAAAAACAATAGCATTAGTAAT
AATAGCTACGATTCATTGCATTCTTATATGTGCCAGTGCTGGGCTTAGTTCTTTATGTAT
45 TTTATGTATAAAGTAATGCCTACCTCATAACAGTTGTGTGGAAGAAATGGAAAAATGCAG
GTAAAGGCCGGGGCTCACACCTGTAATCCAGCACTT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 252>:

gnm_252

5 CGGTACCCGACCATCATCATCGTGGGACTGACTTTGGTGGAAGTCCTTGGTTACATGTCA
TTATTGCATTTCCGACAAGTTATAAAGTTGTCATTACCCTCTGGATAGTTTACCTTTGGG
TGAGTATACTAACTTTCTGTAGAGGTACTTGTAATCACAAATAAGAATAAATTATATA
AAACAATTCACATTTCTGGACTTCATTATGAATATGTGGTTTACCCAAAAAATCAGGGA
AATGATTTATTAGTATAAGAATTATGAAAACATCTGCCATTTGCATTATGAAAATTAAAT
10 AGGTCGGTGTGTTGTTTAATAGAATGTCAACAGAGCTTTTGGTCAAAAATAAGTTTATTA
ACCTTTGTGCTATTTATCACAAATGGAGTATGAGGTTTCGTCACCTTAAATAGGAAATTCT
TTCTAAACTCTTCTGCTTTATAGTTCTATCGTATGGTGGAAGGAAAGCTTCCAATCTCC
TCTCTGAAGATTCACCTGCAGAAATGAGCTGACAACAGACAGCTTAACAGGAAAAGAAAA
CATAGAACAGGCATAAACATGGGAACCAGCTGAAAAATGAGACTGCTAGAAGGGCCGGAT
15 GGCTGATGCTTAAAGAGCACCTCTTCTGAGGGGAGAGGGAGATAGATGGAGATGTAGGC
CATTTAGAGGGGCAGCAAATGATTTTTAGGGGAAATGAAAGAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 253>:

GNMCJ61F gnm_253

20 CTGCTTCAGCCTCCCAAAGTGCTGGGATTACAGGCATGAGCCACCACACCTGGCCTGAAA
TAATATCTTTCAAATCTTTGTAGAATTGTTTTTCTGATTTCTGCACATAGGATAAA
AAAAAATCATGTACTAGGATTTTCGAGAGAAGCAATGGGTAATCTAAAAAGATGAAAAGA
GCAACCACGTCAATCCACAGCTACTGCTAGATTTTATAGGAAAGGTAGCTGGCCAGTT
TGGAGCTAGGGGAAATGTCAAACACATGAAGAAATGAGAAGCCAAGAAATGCCATCACGC
ATGAATGCTTCATGGCACCCATGATGTCCCTGCTAAGGAGGTAATGGTATAGATGACTAG
25 ATGACAAGGACAAAGATGAGAGGTGCGAAGTTGTCCAAGTCCAACAGCTCAACTGAAGTT
TCCTAAGTGGAATTGTTAAAAAGTGGTAAATTTAAAAACTTCACCTGGCTCACGTGGTGG
CTCACGCTTGTAATCCAGCACTTTGGGAGGCTGAGGTTGGTGGATCATTTGAGGTGGG
TTTTGAGACTAAGCCTGGCCAACATGGTAAAACCCC

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 254>:

GNMCJ63R gnm_254

CGGCGCAAATCACCTGGATGGGTGTGAAAGATTCCGACCATAACCGGAAAGACGGAACGC
GCATTGAAACGGAAGGCGACGGAATGTGCAAACGCGACTTGGGGTGAAAACCTACCTGA
ACAGCCATCACCAAGCGTGACGATGGTAAACAGCGTGAGTTCCAGCCTTACATTGAAGCGA
35 ACTGGATCAACAATAGCAAAGTCTACGCCGTGAAGATGAATGGTCAAACCGTAGCCGTGA
AGGTGCGCGTAATCTCGGTGAAGTACGTACCGGGGTTGAGGCGAAAGTAAATAACAACCT
TAGCCTGTGGGGGAATGTCCGTGTGCAACTAGGTGATAAAGGCTATAGCGATACTCAGGG
CATGCTGGGAGTGAAATATAGCTGGTAAACCGTATAAGCCGCATGTGAGATGGCATGCG
GCTTAATATTGCCGACTTCAAACGGCGCATCAACGCCTTATTTAAATCCTCCTTTTTATC
40 CGCGATCGCGGATATCGCAGCGTTTATCCCGTAGAGCGGATAAGATGTGTTCCAGATTG
ACTTATCCTCACTAAAGGATAAAACGCATAATATCCCTTAAGCGGATAAACTTGCTGTG
GACGTATGACATGATGAGCTTTCAGAAGATCTATAGCCCAACGCAATTGGCGAATGCAAT
GAAACTGGTTCGCCAGCAAAATGGCTGGACGCAGAGCGAGCTGGCGAAAAAATTTGGTAT
TAAGC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 255>:

GNMCJ63F gnm_255

5 CCGGCTTAACCGTCCATGCAACCTCAACACATTGCTTTCAACTGCCGTACCACGTTCTC
CGGAAAATCTGTCGGTAATGAAGTCTTCACGTTATCCAGTGCTGCTGGAATCATTCTGGC
AAAGTCACTCAGGATTTTCATGCATCTGCACCTCCGGGAATCTCAGCACCTTTGCTGTGCGC
CAAAAAATGTCGCGGATAAATTTTATCGATTGCCGTTTTTTGCTTTGGATGCGTTAAG
CCCCATTGCCAGTTTGAGATCGCTGATGTGATTCCCGTACCGCCAAGGACCGGAAATGC
TGAAATGATGTGCTAAATGGCGTGAGTCGATAACTGCCGCCAGCCTGAATAAATACGGA
10 GAAGTTTTTTGCATGACCGTCCGTTGCGCCAATCAACCACTGGAAGACCTGGAATTTTCAT
AAAATCATAGCGATCTTTCAGCGCCTCGCTGGACCCCATCAAAAAAGCCATGATCCGCGC
GATGCTGGGCCTCCATCTGATTTCATTTTACCGATGAAGGTAAACCGAATGTCTGACA
CATATCCTCCTGTGGCAAGCGAAGTAAACCGTTTCGCTCAGCATTCCAACGCTGTCAA
ACGTTTCGACCGTAACGCGCGCACATTTCCCGCTTTAATGATTTCTGCGTCCGGAACATT
15 CAACCAAGTCTTTTCGCCAGCAGCAGACAGTAATACTCATTATCACCGCTTTGGCTGAG
ATCGAGCGTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 256>:

GNMCJ68R gnm_256

20 GTACCCCATACAGATCACCTGGGGATCTTAAATGCAGATTCTGATTACAGGAGCTCTTGGT
TGAGGCCCAGGACTCCCATCTTCTCTTCTTCTCTTCTTCCCTTGGCCTCCCAAAGTG
TTTGGATTACAGGTGTGAGCCATTGCGCCCAGCTGACGCTGCACCTCCAACAAGCTTCCA
GGTGATTCTGGAACCGCTGCTCTGGTGAGCACACCTGGAGCGGCAGGAGATAAAGCAGTG
GTTCTCAAACCTGCCTCTAGATTAGTAACATCCCTGCCAGGTGCCACCCCTCAGAGAATCT
25 GATGTTATTGTTCTGGGGTGTGGCTGAGGTATGGCCTGATTTTAATGCTTCTCAGGTGA
TTTCAATGCAGCCAGGATTGAGAACACTGGATTGCAGGGTGGTTATGAGTTCCCAAGACC
AGATGAGCAAACACGCTCTCTCTCATTTTCTTCTCTCCATCTCTCTTCTTCTTCTTCC
AGTCAAGTCTCAATTCTACCCCTTCCATTCCACTTTTGTGGCCCTTTCAATTTGCTT
AAAATCGAAACGATGACATGAAAAAATATTAATGAAATTTTGATAAAGCCATCAATAA
30 TTTACAGCAGTATCCACACATCACCATAAAGTCCCCAACACATTTGACATTTGAGAG
TGTGGTCATCTATTTAGGTCAGCGCAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 257>:

GNMCJ68F gnm_257

35 CCTTTACTCTTCTTAAATATCTCTTGCACCTCTTGCACATTTCTATGATCATTTTAA
TAATTATTTTATTGCAATATGCCTGCCTAATGATAGTAAAGTGTGCGTTACAGCTGCTTT
CGGTAAGGAATGTGATAAAGTCACCTACTATACAATGAGCTCTGTAACAAAAACAAGAA
TGGTTCATATTTTAACACCCGAATTTACGTAATAACGTAGTCATTTCAGGCAGGTGCACA
AAACGGGTTTCTGGCAATATTGAAATAGCCACTGGGGGGCAGCAGAGTGAAGTAGAAGAA
40 ACAACTGTCAAAGCGCCTGGGTCTCTAAGTTCGGCAACTGCCTTACCTAGAAATCAGTT
TCCACATCTGTAAACGAAGGGGTGGACTACAGTGGCAGCTCCCAAAGTGTGGAGCACAC
CCAGCGGCATCTGCAACACCTGGGAACCTGTTAGAAACGCAGATTGCCAGGCTGCTCCCG
GACCTCCTGAATCAGAGACTGGGTGGGGCTCCGAAATCCAGGGATCCCCAGACTCCGGGT
CACAGATGGGGACCACCGGACCTGGCCTGTTAGGAACAGCCACAGCAGGAGGTGAGC
45 AGCAGGCCAGTGAGCATTACCGCCTGAGCTCTGCCTCCTGCCAGATCAGAAGCGGCATTA
GATTCTCCTAAGAGCAAACCTATTGTGCACTGTGCA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 258>:

GNMCJ71R gnm_258

5 AAAGTTGGAGGGTACTTTTGTGATGGGTTTGGTTTAAATTGGTTTAAATATAAGACACA
TAGTCCATAGAGAATTCACCTATGGACTATGCTGCTAAGAGAATCTCAAAGAGATGCACT
GTTATGCTCCAGAGTTTGTGAGAGGCCACTAAGGTCAGGAGACACATGCCATATATATC
AAGATGCTGTCAACAGAGAAAACCACTGAGGTTTCAAACAGAAGCCCCGCTCCATTCAAC
CAGGCAGCCACTCCTCATTGCAGGTGCTGACCTGGGCTTGGCTGCTTCTCACATGGGCA
10 ACTCTATACACTCTATTCCTGGGAGAAGGGCAGCAAAGACCCACTTATTAAATGATGTTT
ACAATCCTCGGCCGGGCGGGTGGCTCACGCCTATAATCCCAGCACTTTGGGAGGCCGA
AGTGGGCGGATCATGAAGTCAGGAGATCGAGACCATCCTGGCTAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 259>:

GNMCJ73R gnm_259

15 ATTTTCATGGACAGCAACTCATCTCCTGGTTTTTATTTTTATTTTATTTGACACAGG
GTCTCACCGTTACCCAGGCTGGAGAATAGGTGTGATCACGGCTCACTGCAATCTTGACCT
CCCAGGCTCAGGTGATCCTCCACCTCAGCCTGCTGGGTAGCTGGGACTACAGGCATGTG
CCACCATGCCTAGCTAATATTTTGTAGTTTTTTTTTTTTTAGAGGTGAGGTCTTACCATG
CTGCCCAGGCTGGTCTTGAATTCCTGGGCTCAAGTGATCCTTCTGCCTTGGCCTCCCAA
20 GTGCTGGGATTAAAGACATGCGCCACCGCACAGCCCATCTCCCATTTTTATAGGAAGGC
TGCTGCATAATTTTGAATCTTTATGCTGGGCTGCAAACTCAAAGGCATAGGGGGTAAGA
TAGGCAACAGAAATTGTGTATCGAGTGCTTACTGTATGCGTGGCACTGTCTAAGTGCTT
TACATATAACACATTTAGTTTTTACAACCATCCTATGAGGCGATTTTATTTCCATTTTAT
AGACAAGAAAACCTGAAATACAGAGAGGTTAAATAG

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 260>:

GNMCJ73F gnm_260

CCCTCTACTAAAATACAATTATTAGCCAGGCATGGTGGCTTGTGCCTGTAGTCCCAGCTA
CTCAGGTGGCTGAGACACAAGAATCACTTGAACCCGGGAGGCAGAGTTTGCAAGTGAACAA
30 CAGATCGCGCTGCTGCCCTCCAGCCTGTACGACAGAGCAAGACTCTGTCTTAAAGAAAA
AGAAAAAAGAAAGAAAGCTAAAACAGGCCACAAAGGGACCTTTTCCTTTTATTTA
TTTATTTGAGACAGAGTCTCGCTCTATCACCAGGCTGGAGTGTAGTGACGCAATCTCGGC
TCATGGCAGCCTCCGCCTCCGGGTTCAAGCAATTCTCCTGCCTCAGCCTCCCGAGTAGC
TGGAACCTACAGGTGCATGCCACCTGTAGAGATGGGGTTTACCATGTGGGCCAGGCTGGT
35 CTCGATCTCTTGACCTCGTGATCCGCCTCCCAAAGTGCTGGGATTATAGGCATGAGCCAC
TGCACCCAGCCTATTTTTATTTATTTTGGAGACAAGGTATCAGCTCTGACGCCTAGGCTA
GAGTGCACTGGCGCAATCTTGGCTTACTGCAACCTCCACCTCCCGGGTTCAAGCCATTCT
CCTGCCTCAGCCTCCTGAGTAGCTGGAACCTACAGGCACATGACACCACGCCTGGCTAAAG
TTTGCATTTTGAGTAGAGACAGGGTTTCACCATGT

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 261>:

gnm_261

TGAAATAATGATGTGTTTGTATTTTATAATCTATGTTGTGTCCTAGTTTTTCAGTGGAAT

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ATAAATAATGATGGTAACTTAGATTCAATGTGAACCTTGAGTAGGGGTACAAGTTCAAAA
TCTGTATAAAAAAATCTATATTAAATGAGAGAAGAGGCTGGGCGTGGTGCTnCACGCCT
GTAATCCCAGCACTTTGGGAGGCCAAGGCAGGAGGATTGCCGGAGGTCAGGAGTTTGAGA
5 CCAGCCTGACCGACATGGTGAAACCATCTCTACTAAAAATACAAAGATTAACCGAGCG
TGGTGGCGGGCACCTGTAATCCCAGCTACTCAGGAGGTTGAGGCAGGAGAATCGCTTCAA
CCGGGGAGGCAGAGATTGCAGTGAGCTGAGATTGCACCACTGCACTCCGGCCTGGGTGAC
AGAGGCTrCTCCGTCTCGAAAAAAGAGAGAGAGACAGAAGAGAATTTTATTAG
GAAATCTAGGCAATAAAACACAGAAATTTAACTCTGAGCGTCCTGGCTACCAAGCAGGT
10 AGGTCAGGATTTATTTATTTGATGGATGTTGCTTAAAGCCTCCTTGTGCTCTAGAGCAGT
CAAATTCATAGAGACAGAAATTAGAATGGTGGTACAGTTTCGATTTTGCAAGGTTCAAAA
TATTCTGGATATGGCTGGTAGTGACGGTTGCAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 262>:

GNMCJ77R gnm_262

15 CCATTACACTCCAGCCTGAGGTGACACAGCGAGACCCTGTCTCAAGACGAAAAAGTTCT
ACTTGCAACACTCCACACAACCTAGTGCAATTCTTGGTATGTCAAATACCAAGAATGAGA
ACTGCTGATACAAATACAGTGGAAACACAAAGAAATGTCCCTTTGTATCTGGGAAAGGA
GGCAGGGGTGAGGAAAGCTTTAAAGAGAAAGTGATGCTTCAGCTGTCTTTAAACAGTAA
20 CACAGTTGAGTCTTTTCTGGAAGTTCTGCTTCTTACAGAAGGAAAAGTATGTATTAGAA
AACTGAAAAATGTTTCAAGTATGGCTGGCATGTATAGTGACCAAGCCAAACAGATAATAAATC
TGGGGAACAAAGAACCAAAATAGACCATGGAGGGCCTTGTAACCAGATCTGTAATA
GAGAGATCTGGAAGTGTGGGAAATAGACTCAATGAAGGAACAACCATGTGCTTAGAGAGA
ACCAGGGAAAGCTCCATGAAAGATGGAGCCAGCCAAGAGTGGACATGATAAGTTGGAG
25 CATCTATGATGATTCTGGGTAAATGCATTAACAGACAGTTAAGAACCAAGTCTAGGCCG
GGTGCAGTGGCTCACGTCTATAATCCAGCAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 263>:

GNMCJ77F gnm_263

30 CCGAACAGTCTCTGACTCAAAGTAAGGGCAGTAATTGTCATCTGTTGTTTTGTTCCAGC
TGACTGTGCTGTATCATTTCTCACTCACATTTAAGTCCACTGTTCTTATCACTGTAGTAA
TTACCCTGACAGATTACCCATGTTTTTTTTTACATGCTGATTTCACTGGACTTTTTTTG
AGACAAAGTCTCCTTCTTGTACCCAGGCTGGAGTGCAGTGGTGTGATATGGGCTCCCTG
CAACCTTTGCCTCCTGGGTTCAAGCAATTCTCCTGCCTCAGCCTCCCAAATAGCTGAGAT
TACAGGCACCCGCCACCATGCCTGGTTAATTTTTTTATTTTAGTAGAAACGGGGTTTCA
35 CCATGTTGGCCAGGCTGGTCTTGAACCTCCTGACCTCAGGTGACCTGCCTGCCTCGGCCTC
CCAAAGTGCTGGGATTACAAGTGTGAGCCACTGAGCCAGCCTCAGTGGACTTACTTTTT
TAAGCCTTGTATTCCTTGTATCAGCCGACACTGTTGGCCACCCACTTCTTAAACTTCAG
TGTTTCTGATCCTCCTGTCTTCTGATCCTTTAATCTCTCTTTTTTnTTTTTTTTTTTT
40 TTTTGCTCTGTGCGCCAGGCTGGAGTGCAATGACGCAATCTTGGCTCACTGCAAGCTCCA
CCTCCCGAGTTCAAGTGATTCTCCTACCTCAGCCTCCCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 264>:

GNMCJ86F gnm_264

45 CCTTGCTTTTAGGAAGAAATAATAGATGGAAGCTATCTGAATGGTAATGTGCCCCCTTG
ATCTCCACTTGCTTCTTCTAAGAATTTCAAACAGAATGTAGCTGTGATCTCTCTGGAATG
ATTCCTTTTAAAGATGTCTTTTCATTTTACTCCATTGTAGCACTGCTGGATCTCATACA

5 GTTTCAAAGGTAAAATGCCCTAGAGGAGAGGGGAAGGGATGGTATAGATTTTAAATAAAA
ATTCTTAATGGAAGTCTCTTAATTGTAAAAAGTAATATGTGCTCATTACAAAAATGTCA
ATCAATGCACAATGTGTTAAAAGTCAACAAACACCCCTTGCTCCACGGGCATCATTCCCTCC
TCACTCTAGCATAAGGGCCAATTTTTTTCTTTTTTTGAATGGAGTTTCGCTCTTGTTGC
10 CCAGGATGGAGTGCAGTGGTGTATCTTGGCTCACTACTGCAACCTCTGCCTCCGGGGTT
CAAGCAATTTTCCTGCCTCAGCCTCCTGAGTAGCTGGGGTAACAGGTACCTGTCACCATG
CCCGGCTAAATTTTGTATTTTAGTAGAGATGGGTTTTACCAGTGTGGCCAGGCTGGTC
TCAAACCTCTGACCTCAGGTGATCTGCCGGCCTCAGCCTCCCAAAGTGTGGGATTACAG
GTGTGAGCCACCGCAACCGGCCTAAGAGCTGAA

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 265>:

GNMCJ88R gnm_265

15 GTACCCTGTCTAAATTTGCCGTCCGTTGAGGTAGAAGGCAAATTTGGAGTTTCTTGTTT
AGAAAAAACTACAGATGACTACTGTGCACCTGAAAACAGCACTCAGCTTCACTAACGA
GACATGCAAGCTAGAATCAAATGTCTGTTTTGTTTTGTGCTGTCGTGATTGTTAGCTG
AAACCAAATCACAAGGTCTTTTTCTCCCTCTGTATTAGCTCAGCATACACTGAGCTTACA
AACGTATGAACCTCAGTTGTCGTGGAATCTTACAGCCTGCTACTTCCTAAGTATCCTTT
AGAGAAGCTGCCTTGGTGACCAATGAATGTGGTTAGCCTAGTGATACTCTTCTGGGCCAT
20 ATACTGTGTGACTATCTGCATGGACCTTTATTGAAAGCATTTCTGCAAATAATTTTTTA
AGTGTTTTTTAAATGTGTGATAATTTGTGCTTTTAAAGATATCTTACACTTTTCACTTAT
TTGTACCTTTAAAAATCTTTTTTTTTTTTAAACCAAGGTTTGCAGTATCCTCAGAGTCT
GAAATTTGAGCGGATAGTGATGAGCCAGCCAATCCCTGAAGATTT

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 266>:

GNMCJ88F gnm_266

25 CCAGTTCGAGACCAGTCTGGCTAACGTGGTGAAACCCATCCCTACTAAAAATACAAAATT
AGCCAGGTGTGGTGGCGCATGCTGCTAATCTCAGCTCCTGGGAGGCTGAGGCAGGAGAA
TCACTTGAACCCGGGAGGTGGAGGTTGCAGTGAGCCAAGATCGCACCCTACACCCAGC
CTAGGAAAAAGAGTGAAATTTCACTCTCAAAAAATAAAATAAAATATGACAGTAAT
30 CTCTGTTTATTAAACACATAATGTGCCAGGTACTATTGTGGTCAACCTGCAAAGACATGG
ACCCACCAACCAAAAATTTGTTTATGATGTCAAGACTGATGATACACCACATGCACCAAG
AGGGTAGGAAAAGGTTTATTGCTCATATAATGAAGCTTTCTGAGAGAGCAGGGCAGATTC
CCAAGCAGGTCCAAAAATGGTTTCAGAAAACAGGCAAGGAACTCCCTTAGCATTTATG
GTGGTTAGGGATGGGGATGGGGATGGGGATGCGATGGGGATGGGGATGAAATGTGGGTCT
35 GGTGGGAGGGCTAGGGCTTGTGGGTATGAATTTCCAGCTGGTGCCAGAGGAGAGAGCAG
CAGGCTTTCTAGCTTGCCAGATGTGGGGCAGAGGGGAGAAGGAGGGTGGAAGATGTT
AGCAGTCCCATATCAGAAGTGAGGCAGACTGTTT

30

35

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 267>:

GNMCJ90F gnm_267

40 CCGAATGAAGTAATCTCTTCATTGTATTTTTTTTTTTTTTACTTATGCTGAGATTTAA
TGACAAAGATTATATAATCCAAGAGAGAAGTATTATTTAGAGGGATTCTTTTACCATGT
GATATATAATAAATGCATCCAATGTTATACATCAATTTAAAAAACAAGTAAATAACTTTA
AAGAAAAGATAACTACTGGCCAGGTGCAGTGGCTCACACCTGTATCCCAGCACTTTGGG
45 AGGCCAAGGCAGGTGGATCATGAGGTGAGGAGTGGAGACCAGCCTGGCCAAGATGGTGA
AACCTGTTTCTACTAAAAATACAAAAATTAGCCGAGCGTGGTGGCAGGCGCCTGTAATCC

45

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CAGTTACTCAGTAGCTGAGGCAGGAGAATCGCTTGAACCCGGGAGGCGGAGGTTGCAGTG
 AGTTGAGATCATGCCACTGCAATCTAGCCTGGGTGACAGAGCAAACTTTGTCTCAAAAC
 AAAAAGAAAAGAAAAGATAAGATAATTACTTTATACTTAGCTTGTCTTACCCATGAGTGA
 CGGGCTGCATGTGGCCCAGGACAGTTTTGAATGCAGTTCAACACAAATTTGTAACTTTC
 5 TTAACACATTAGGAGATTTTGGCCAGGTACAGTGGCTCATGCGTGTATCCCAGCACTTT
 GGGAGGCTGAGGCGGGCAGATTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 268>:

GNMCJ91F gnm_268

10 CCnTGTCGCCCAGACTGGAGTGGAGTAGCATGACCATAACTCACTGCATTGCGGAACTCC
 CATGCTCATGTGATCCTCCTGTCTCAGCCTCCTGAGTAGCTGGGACCACAGACATGCATC
 ACCATGCCTGGCTAATTTTTTAACCTTTTTGTAGAGACAGGATCTTGCTTGCTATGTTGCC
 CAGGCTGGTCTCGAACTCCTGGCGTCAAGCGATCCTCCTGCCTCAGCCTGTCCAAATTCT
 TAACACTATACTATTCTGCCTCCTATACTAATCCCACAGAAATAAATTTCTTTATCAAA
 15 TTAACCTTAAACAGACCATTTCATTCTCACAAGACAGATAGTCAGAAATACAGGATCGAT
 CTGTGTTTTCATGGTAATACCTGGCTCCTTCCAAGTTCCTTATCCTTCAGGACTGTAGAGT
 TGAATCCAGGTTGCCTCCTTAAATCAAGAGAGACACTTCCTTAAAGAAAGCCCCCTGTGA
 TCTCCACGATGCCTGGGGCAGTGTCTTCCGCTTGGACCATCTGCCAGAAGCGAGAAGCAA
 CAAAACAACATTGTAAAAAATGCATTGAGCTTTGAGGAAGGGCCAGGCACTACATCACAG
 20 GCAATAAAATCCATCAGAACCGCTCAGCAACCCTAGGAAGTGGAGAGTAGCATCATCCCC
 ATTTACAGGTGAGGGAACAGAGACTTAAAGTGTGATGAGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 269>:

gnm_269

25 GTACCCCATGGGTACAGAGGAAAAGCAAAGAAAGGAAGGATAAGGATGGGTGCGTAGGAA
 GACAACCTTCCAATTACAAGGCAGAGTAGCTCTGACCTTCTAGGAACAGGTGAGCCCCTa
 aGAACGTCCCAGGGATGGAAAGCAGGTTCTCCTAACCATCTCAAAGGCACCCCTCTTAG
 GGTGATTGGCCAAATAGGACATGTTACCAACACGTCTCAAGAGAAAGACAGTCTGGTGG
 ACTTCAGTATTCCCTGATGCATCCAGTCAAGTCTATGGGTGAATAATTTGTTCTTGGG
 30 GAAGGGTTTCAACAGCATCCTTGTCCAAAGATATCTTCATGGGCCACTGAAAGAAACTGG
 CCTCCTAGATAGGTCTATTACCTTTAAAGGGTTTTTCTTCAGCTTTAACAGATACAATA
 GATTTGGAATGCAAATGAAAAAATGACAAACCTACAAAAGAATCAAAACAGTATACAA
 CACTGTCTCTATCCACAAAACAAATGGATCTTTAAGTGAACCACACAAAAGAGATGAC
 AAAAGCCTTACATACAGGGTTTTATATATAAmAmAGGAGACACTTTATTCTAAAATCACC
 35 ACTTAGAAATATAAACATCTTGACAGAGTAGGAATTTTATTCACCTTAAAAACATGCCA
 AAAACATATGGGAGATATTTCTGACTTGAGACAATGCTATACTCTTTTTTAAGCATGATA
 TTAAGTACTCGGCAAATTAGGCTACTTACATAAGAGAAATAAATTTAGCTCTTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 270>:

GNMCJ95F gnm_270

40 CCTGCACTCCAGCCTGGGCAACAAGGGAGAACTGTCTCAAATAAAATAAATAAATAAAT
 AAAATAATGTAGATCTTGAAAGGGGGTTGGTTTATGCTGGTGTATGTACTTTCCAAAGTT
 AGTAACTTACACTTAAGGTTATATATTTTGGCCAGGCGGGTGGCTCACGCCTGTAATC
 CCAGCACTGGGAGGCTGAGGCAGGCAGATCACGAGGTCAAGAGATGGAGACTATCCTGGC
 45 GAACATGGTGAAACCCCATCTCTACTAAAAACACAAAATTAGCCAGGCGTGGTGGTCTA
 CTAATAATACAAAATTAGCCAGGCGTTGTAATCTGAGCTACTCAGGAGGCTGAGGCAGG

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ACAATTGCTTGAACCCAGAAGCGGAGTTGCAGTGAGCCGAGATCTTGCCACTGCACTG
CAGCCTGGGCGACAGAGTGAGACTCTGTCTAAAAAAAAAAAAAAAAAAAAAAGTCATC
AAACCAGATGACACAAATCCAATGGCATTTCACCTTGGTTTGG

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 271>:

GNMCJ96R gnm_271

CTGCATGACTCCGCCAAAATCTATCGCTTCCCGGTTTCGCAGAGCATTGATGAGCTGATG
GAAGCTTGTCTGACGTGATCCGCAAAAACAATCTCACCAGCGCCTATATCCGTCCGCTG
ATCTTCGTTCGGTGATGTTGGCATGGGAGTAAACCCGCCAGCGGGATACTCAACCGACGTG
10 ATTATCGCTGCTTTCCTGTTGGGAGCGTATCTGGGCGCAGAAGCGCTGGAGCAGGGGATC
GATGCGATGTTTCTCTGGAACCGCGCAGACCTAAACACCATCCCGACGGCGGCAAAA
GCCGGTGGTAACTACCTCTCTTCCCTGCTGGTGGGTAGCGAACGCGCCGCCACGGTTATC
AGGAAGGTATCGCGCTGGATGTGAACGGTTATATCTCTGAAGGCGCAGGCGAAAACCTGT
TTGAAGTGAAAGATGGTGTGCTGTTACCCACCGTTACCTCTCCGCGCTGCCGGGTA
15 TTACCCGTGATGCCATCATCAAACTGGCGAAAGAGCTGGGAATTGAAGTACGTGAGCAGG
TGCTGTGCGCGCAATCCCTGTACCTGGCGGATGAAGTGTATGTCCGGTAAGCGGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 272>:

GNMCJ96F gnm_272

GTTGCCAGGCTGGCATAAGCACGCGAGGCAAAGGAGACCTGACGTTACGATTTTTCGGCG
TCCAGGCTTTGTACCTCGAGCGTCTGCGCTTACGACGCGCCGCCAGTTCGGCATCGC
TTACCTGTAAGTGAATGCCACGGTTCGGGATGTCGATAGCGATCAGGTCACCATCTTCAA
TCAGGCCAATGCTGCCGCCGCTTCCCGCTTCCGGTGAGACGTGGCCGATGGAAAGACCAG
AGGTGCCACCAGAGAAACGACCGTCGGTGATCAGCGCACAGGCTTTGCCGAGACCCATTG
25 ATTTACAGGAAGCTGGTTGGGTAGAGCATTTCTGTCATCCCGGACCGCCTTTCGGGCCTT
CATAGCGAATTACTACCACATCTCCGGCGACAACCTTACCGCCGAGAATCGCTTCTACCG
CATCGTCTGCTTTTCGTACACTTTCGCCGGGCGGGTGAATTTGAGGATGCTGTATCGA
CGCCTGCCGTTTTACGATGCAGCCGTTTTCCGCAAAGTTACCGTAGAGCACCGCCAAGC
CGCCGTCTTTGCTGTAGGCGTGTTCAGCGAGCGGATACAGCCATTGGCGCGATCGTCGT
30 CCAGCGTATCCCAACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 273>:

gnm_273

GGGGGATGAAAACAGCTCCCGTCCGTCGGAATAGGGGCGGTGCTGTCCGTTTTGTGACA
35 AAAAACCGTTTTGGACGGAGAAACGCACCAAGGCTGGCCGGCTTCTTCCGGAACACAG
TTTCAGCGTCACGCAAATCCACCCGTGTTGGCGCAAAACACCGCCCATCTGTCGTTACGC
CACCGCTTCGGCGACAACAGCGGCATCGGCTGCCTTGCCCGTGCCGCCGATCGGGCGAT
GAAGGGGCGTGCGCATTTGTTGACCGGTTTTCCGGACGAAGTGAACATTGGAATGCAGT
CCGAACGCTCGAGTCGAAGGTTGTACCGGGCACACAAAGCCTATTGGCAGGCGGTAAAA
40 GACGGCAATATCGAAGCCGATACGCGGGCATTTTCGGATATCGTGGTTCTGGCAGCTTGG
CGGCAGGATGCGGAAGACTTCAACGAAGCCTATTGCGGCCATGTACGCCGCAAAATGAAC
ATACCGGAACATTTGGCATATTTGCCGGAGAGCCGATTATGATCAGGCAGAACGACTAC
GCGCTTGAAGTGTCAACGGCGACATCGGACTGATTATGGAAGATGTCGGACGGCAGGGC
AGCCTTCCCGCCTATTTTGGCGATGCGGACGGATTTAAAAAGGTAGCGGTAAGCTGCCTG
45 CCCGAATTTGAACCCGCATTTCGCCATGACCGTCCACAAAAGCCAAGGTTTCGGAATACCGG
GAAGTATGGCTGCTGCCGCTTCCGCCGCACCTTCGGACGAAGGGGACGATGCATTGTCC

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GGATTGAGTAAGGAGCTGTTATATACCGCCATTACCCGCGCGAGAGAGAAGTTCGTATTC
TTCGGCGGGGAAGAAGCCTTCCGGCAAGCTGCCGCCACCGTCAAAACGCGTCAGACGGCA
TTGGGCAGTATGCTCGAGCGGGTATTTTCACAAGAATAATCCGCCCGAATGCCGCGCCGC
CGCCCTTATGCCTTTTTCAAACGGTATAGGAAAGTGGTTTTCCCGGGTTTCGCGCAAAAGC
5 AAGCGGATCGCTCGGATTTCGCGGCTTTTTTGTGCTTCGGCTTGGTTTTTCATCATATCGGC
AACACGCAAAACCCGCTGAGCAAATGCCTTATCCAGAAAATCGGATGGACGCAGGTGCAG
ATGTTTCGGCAAGATCGGAAATGATCAGGCGGATTTCTCCGTCGGGATTCAGATGTTTCGG
CGCATCCCGCAAAAACGCCAGCCAGCATCGCAGATTTCGGGGTCGTATAACGCGGATTCGAC
GGCGGAAGTCGGCTTGGCGGGAAGCCAGGGCGGATTGCAGACAATCAGATCGGCAAAACC
10 TTCGGGAAACAGATCGGTTTCCCGTATCTCAACCTGTTTTTCAAAGCCCAAACGGGCAAT
ATTGGCAGCGGGCGCAGGCGACGGCTTTCGGATTGGTATCCGTGCCGATGACGGAAGGAAT
GCCCTGTTTTCGCCAAAATGGCGGCAAGCACGCCGGAGCCTGTCCCGATATCGAATGCCGT
CTGAAAACCCGTTGACGGCGCATGGGCGAGCAGGTTCGAGGTATTCGCCGCGCAACGGCGA
GAATACGCCGGAAGGAACGTGTATGCTGCCGCCAGCTGCGGAACGGCAACCCCTTTCTT
15 ATGCCACTCTGGCGCACCCATAAAACCCAGCAGCAGATTGAGCGGCAGGAAAAACGGTTT
GCCGTCCGCCTCTCCGTACACGTCGAGCAAAGCGGAGCGTATATCGGGCGCGCTTGT
GTCCAACACAAAACCGGGGCGGATTTCAACGGCAAGCATATTCAGAATACGGCTCTGCTG
CGCTGCTTCATACGTTGGGCATGGAAGGGGCGGCGATATCCGCATCGGAACGGACGGC
GGCAGGTTTGCGAACCCCTCTTCTTCATTGCAGAAAGCACCTGTTTGGCATTGTGGAATC
20 GCCCTGCTAGACAGTTGCAATATTTGATAGGCAGCCTTCAAATGCCGTCTGCACCGCT
TTCGGCGACATAATGCCAACCTTTGGGCGGCTTTTGCAGACTTTCGTTGCGCCATTCGAA
CCCGTCATCGGGAAAAATAAAGAAGACATGGGATACCTGCGTCATGTTTTGAAAAATAGG
GCGGCAGAACCGCAAAACCATACGGATGGTACAGCAAGGAGCGGCAACACAGAACAGTTTT
TTGTTCCCGCTTGTCTTTCCAAGCCCATGCCGTCTGAAGCCGGAATGTTTCAGACGGCA
25 TCGCATCAAATCCATAAATAAACCACATATGCTTGAAATAATACCTTCAACCCCAATGT
ACGCGAAAATCGGCAATCTGTACAGACAAAGAGAGTACCTATGACACAAAAGAAAAGCA
TTTTGAGGAATATGCCGCTTGGCAACCCCTTCTTTGCGGGATGTCGTCGTTTACCCGCA
TATGGTTCTGCCGTGTTTGTGCGCAGACCGAAATCCATCGCCGCACTGGAACGCCAT
TACCCGCGAGGAGCCGGTTTTCTGTTGGCGCAACCGATGCGGCGGTAGAAGAACCGAT
30 TGCCGCCGACCTGTATCAGACCGGTACGGTTCGCACAAGTCTGCAAGTGTGAAACTACC
CGACGGCACGGTAAAAGTATTGGTCAAGGGCTGTATCGCGGACGTGTTCTGACCATTGA
AGACACGGGCGGTCTGTTGTTTCCCATATAGAGACGGTCGTGGAAGAAGACACGGGCGG
CAATACCGACCTCGAAGCCGTGCGCCGCACCCTGTTGGCGCAGTTTGAACAATACGCCAA
ACTCAATAAAAAATCCCCGCCGAATATCGGCAGCATCAACGGCATTGCCGAAAACAG
35 CCGGCTAACCGATACGGTTCGACGCGCATTGTCAGTTGAAACTGGCGCAACGCCAACAGAT
TTTGGAAATTTCCGAAATCGGCAACGGATGGAATTCCTGCTGGCACAGCTGGAATCCGA
ACTCGCATTATGACGGCCGAAAAACGCATACGCGGACGCGTCAAACGCCAAATGGAAAA
ATCCCAGCGCAATATTATCTGAACGAACAGATTAAAGCGATACACAAAGAACTGGGCGA
AGAAGACGAAAACGGCGAACTGGATGCCTTGGAAGCAGATATCAAAAAGGCGGGTATGAC
40 CAAAGAAGCGGAAGAAAAATGCCTGTCCGAACTGAAAAAGCTCAAATGATGCCACCGAT
GTCTGCGGAATCCACCGTCGTACGCAACTACATCGACACTTTGCTCGAGCTGCCGTGGAA
GAAAAAATCCCGCGTCAGCAAAGACATCGCCAAAGCCGGACTGGTGCTGGATGCCGACCA
CTACGGCCTGAAAAAGTCAAAGAACGGATTTTGGAAATACCTCGCCGTCCAAAAACGTAT
GGACAAACTCAAAGGCCCGGATTCTGTGCCTGGTCGGCCCTCCGGGCGTGGGCAAAACCTC
45 TTTGGGCGAATCCATCGCCAAAGCAACGGGGCGGAAATATGTCCGCATGGCTTTGGGCGG
CGTGCGCGACGAAAGCGAAATCAGGGGACACCGCCGCACCTATATCGGCTCTATGCCCGG
TAAGATTTTGCAGAATATGGCAAAAGCCGGCGTAAAAACCCCTTGTTCCTGCTCGACGA
AATCGACAAATTGGGTAACGACTTCCGAGGCGATCCCGCCAGCGCGTTGCTCGAAGTGCT
CGATCCCGAACAAAAACAAGTTTGGCGATCATTATGCGGAAGTGGATTACGATTTGAG
50 TGATGTGATGTTTATCGCCACATCCAATAGTCTGAATATTCCGACTCCGTTGCTCGACCG
TATGGAAATCATCCGTCTGTCCGGCTATACCGAAGACGAAAAAATCAATATCGCGATGCA
GTACCTCGTACCGAAGCAAATGAAGCGCAACGGTGTAAAGAAGGGGAATTGGCAATCGA
AGAAAGCGCGGTGCGCGATATTATCCGTTATTACACCCGAGAGGCGGGCGTGCCTTCGCT
CGACCGCGAAATTGCCAAAATCTGCCGCAAGGTGGTGTATGCAGATTACCTTGGACGAAGA
55 TAAGAAGAGGTTGTCTGAAACCAAGAAAACAGCAAAGCCAAACCTAAAGCGGTTAAAGT
AAATGAGAAAAATCTGCACGACTATTGGGTGTGCGCGCTTCGATTACGGCGTTGCCGA
AAGCGAAAACCGTATCGGGCAGGTTACCGGTTTGGCGTGACGGAAGTCGGCGCGCAATT

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GCTGACCGTCGAAGCCGCAGCATTGCCGGGTAAGGGCGTGATTGAGTGCACCGGCCAGTT
 GGGCGATGTGATGAAGGAATCCGTGTCCGCAGCGTGGTCGGTTGTCCGCTCCCGTGCGGA
 ATCAGTGGGTTTGGCTCCTGATTTTTACGAGAAAAAGACATCCACATCCACGTCCCCGA
 AGGCGCGACGCCGAAAGACGGCCCTAGTGCGGGTATTGCGATGACCTTGGCGGCGGTATC
 5 TGCCTTTACAAAATCCCGGTACGCGCCGATGTGGCGATGACGGGCGAAATTACCCTGCG
 CGGCGAAGTTTTGCCCATCGGCGGTTTGAAGGAAAACTGTTGGCCGCCTTGC GCGGCGG
 CATCAAACACGTCTGATTCCGAAAGACAACGTCAAAGACTTGAAGAAATCCCTGAAAA
 CGTGAAAACCGGCCTGACCATCCATCCGGTCAAATGGATAGACGAGGTATTGGCTCTGGG
 TTTGGAAAGCCAGCCTGAGCCTTGGGCGAAGCCTTCTGGTGCGGAAGCGGCGCGGAATC
 10 CGCTTCAAACCAAACCCCGCAGCAGGGCAACCAACATTGAAACGCAGGAAATGTGTT
 GTAAAAATGCGGTTTCTGCTCTGAAAGCCTGTCAAATAGGGTGATTCCGTATTTTTGCTT
 GACACGGCAATTTTCAGAATTGCTATAAAGCGAAAGTTGCTCAAGCAGTACAAACCCGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 274>:

15 **gnm_274**

AAAATCCCGTCATTCCCGCGCAGCGGGAATCTAGACATTCAATGCTAAGGCAATTTATCG
 GGAATGACTGAACTCAAAAACTGGATTCCCACTTTCGTGGGAATGACGGAATGTAGGT
 TCGTGGGAATGACGGGATGCAGTTTCCGTATGGATGGATTTCGTATTCCCGCGCAGGCG
 GGAATCTAGACATTCAATGCTAAGACAATTTATCGGGAATGACTGAAACTCAAAAACTG
 20 GATTCCCACTTTTCGTGGGAATGACGAGTGGAAGTTACCCGAACTTAAACAAAGCGAAAC
 CGAACGAAGTAGATTCCCACTTTCGTGGGAATGACgyGGwGCAGGyTTCyGTATGGATGG
 ATTCGTATTCCCGCGCAGCGAAATCTAGACATTCAATGCTAAGGCAATTTATCGGAAAT
 GACTGAAACTCAAAAACTGGATTCCCACTTTCGTGGGAATGACGCGATTAGAGTTTCAA
 AATTTATTCTAAATAGCTGAACTCAACGCACTGGATTCCCGCTGCTCGGAATGACGAG
 25 TAGAAGTTACCCGAACTTAAACAAAGCGAAACCGAACGAAGTGGATTCCCGCTTTCATG
 GGAATGACGGGATGCAGGTTCTAGGAATTACGTGGTGAGGTTTCCGTACGGATGGATT
 CGTCATTCCCGCTCAGGCGGGAATCTAGACATTCAATGCTAAGGCAATTTATCGGAAATG
 ACTGAAACTCAAAAACTGGATTCCCACTTTCGTAGGAATGACGGC

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 275>:

GNMCK14F gnm_275

CCAAAGAAGTGACGGAGTTGATGTGCACAGGACTATGTAACCGGGCTTGCCGTTTAACC
 CATACAAAGAAGAAAGCCAAGGGCAGGAAGTTTCAGCAAAGCGCGACAAACATTCGGACAG
 GGCGCAAGTTGCCACATTGGGCGGAAAACCGTAGCAGAACCTAATGTACGATAATTGGGA
 35 AGAACGCGGGAAACCGTTTGAAGGAATCGGACGGGGGCGTGGTCGGATCGGCAAACTGAA
 GAAAACGGCAAGAGAGAAAAAGACCCGTAAACCGTTTGAATATAGACGGTTTACGGGTC
 TTTGTTTCGCGCAAAGCAAGGGCTAAGGCAGTCAGGCAGCAAATCCCGCAATGTATTAA
 ACAGACGCGTAGAAATGCCGGCTGCCTGGAGCGTTTTCTTTATTGAATATCATCCTAGC
 CGTATCAAGGCTGTATGAATATGTTTTTACCAATGAATATAATCGGGCTGGACATCTCA
 40 AAGGACACCATAGACGCAACATTGCATAAAACAAACGGAAGTATCCATTACATTAAATTT
 AAGAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 276>:

gnm_276

45 TTTACCTGCTCTTTTAATTGCAGCTTCATCAATTCGATGACACCTTGACGGTGTGCCTGC
 TCTGCGGCTTCTGTGGTATCAAACAGGCGCAGGGCGATGCGGCCGTCTTTTCTTTTGT

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5 AGGCCGAGATAGCCGGTGAGCTGTTGTTTGCCGCGTGCGAATTTGATGGATTGCGGCAGG
GTGCCGATGTCCCATGCGGTGACGTTGTCGCGCTCAAATTCCTGGGTGTTGTACGGAAG
GTAACGGCGGCAGCTTGACCGAGTTGTTGTTGCAATTCGTGCAGTTTTCGGCCGCCGGCA
AGCTCTTGTCCGCCGTCGTGATAATGCGGAGGTTGAAATAGCAGTGTTCGGGCAGCCTG
AACGCGGCCCATTCGTCTTGGTTGATTGCTCGAATATGCGGATGTCGCCTGCGGTTTTG
GCGATGGCTTGGGCGAGTTGGGGCAGGATGGGGGCGTTGCGGTGCGGCATTGCTTTTCGT
TCCACCGTATTCAAATACCGATGAAGGGGCGATGATTGTCAACCACAATCAAGACAAAG
AATCCACCGTTACCATTACAGGCAATAAAGATATTGCTACAACCGGCAATAACAACAGCT
TGGATAGCAAAAAAGAAATTGCCTACAACGGTTGGTTTGGCG

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 277>:

gnm_277

15 CATTAAAAATAAGTTTTTCTTAATTTTTCTTAGTGCTTGTTTTTATCTGCTTATTTGTT
GCAATGCCGTCTGAAGCAATGTGCGTTTCAGACGGCATTGGAATTCAGTTGGGCAGGG
TATCGGACGGTACGGTTTCCGGCTCTTCTTCATCCGTAGGCGGCATTTCTATCAAATCGG
GCAAAACCAAGTTCGCCCAGTTCGGTCAGCGGCGGCAGTTCTTCCAAGCTGTTCAAACCCA
AATCGCTGAGGAACGTTGCCGTTGTGCGCCACAATGCGGGTTTTCCAATGTGTCCCGAT
GTCCGATGACTTCAATCCACCCCGATCCTGCAAGTCTGCATCACGTTCTGCGACACCGC
CACGCCGCGTATGCCCTCGATGTCGCGCGCGCTTACGGGCTGCTGGTAGGCGATAATCGC
20 CAGTGTTCATCACGGCGCGGGAGTAGCGCGGCGCACGCTGTTCTTGCAAGGCTGCCAG
CCGCTCGAATGCCGTCTGAACAATCTGAAAACGCCAGCCCTCTTGCGTATGCACCAAGTG
CAACGCCCTATCCTGCCAACGCGTTTTTCAACTGCGCCAACACATCAATCAGTTTGTCTTG
CGACAACGGCGGCACACACAGTTCGCGCATAGATTTTTCGGTGAGCGGTTGCGTTTGGGT
CAGCAGTGCGGCTTCAATCAGCGCGTCGGGAGAAATTTGTGCGTCATACGGGTATCCGT
25 GCTGAAACGGCATGGGTTTGATATGCCGTCTGAAATCGGTTGGAGTAGAGAGAAGCTGC
CTGAAAAATATTTTTTTCAGACGGCATTCTTTATGCTTCCGAAGCTTCTGCCCTTTACGCTC
TGCTTTTCTGGCTTCGCGTATGGCTTTGAGTTGCGCTTCTTTCTGACGGGCTTTTTTGAG
CCAAGTTTCCCATTTGGTTTCGGCGTTTCGAGGGTGATTCTGCCGATTTTGCTTCACGGAA
GTCCGTTAGGATGTTTTTCGGCGGCTTTTTGGTAGTTGATCCGTCCGCCGCTGAGGACTGC
30 GCCGCGTTTTTTGGCTATCCATTGAGCCAAACGTTTTTCGTCCCAAGTGGCTGCTGGGGTC
TTTGTGCGCTTGGTAGCGTTCTTGCAACATAGGGAGGTAGTGGCGGCGGAGGTAGTCTAA
AAGTTCGAGGGGCGACTTCTTCTTCGTCCAACGCGTTGCGTCCGACTGCGCCGCCGGCGGC
AAGGTTGTAGCCGCCTTCTTCGACGATGATTTTCGGCCATAGCATTCCGGGGGTGTCGTA
GAGCCAGAAGTCATCGGCGAGGAAGAGGCGTTGTTGCGCTTTGGTGATGCCGGGTTTCGTT
35 GCCGTTTTTGGCGGATTTTTTGCTATCATGCCGTTGATGAGGGTGGACTTGCCAACGTT
GGGGATGCCGCAGATGAGGACGCGCAGGGGTTTATCTATGCCCTTGGCGGTGGGGAATCAT
GGCACGACAGGCTTGGGTAATTTTGCCGTGTGCGCTGTTTCGGAGGAATCGAGGGCGAT
GGCGCAGGTGTGCGGGCGGCTGTTATAGTGTTCGAGCCAGATTTTGGTGCGCTCGGGGTC
GGCAAGATCTTGTGTTGAGGATTTTAAAGTTTGGGTTTACCTTTGGAAAGCTGGGCAAG
40 CAGGGGGTTTTTCGCTGGAGGCGGGCATACGCGCTCCAGCATTTCAATCACCATATCAAC
GCTTTTTGCAGCTCGGCGATGGCTTTTTTCGCCTTGTTTCATATGGCCGGGAAACCATTG
GATTGCCATGTCTGTTCTTTCTTTTCAATATTTGAAATGCCGTCTGAAACGGAGGACGGG
GTTTCAGACGGCATAATGTTTACGGAATTAGCGGTCTGACAGGTTTTTGCCTGTCTG
TGCCGTATCAGCAATTCATAACGCCCTTTCAACCTTCGGGCGAGTTTTTCGACAATATAG
45 ACCGAACGGTGCTGTCTCCCGTGCAACCGATGGCGACGGTAACGTAGCTCCTGCTTCA
TCCTCAAACGCGGTAACCAATGCGTAACAAACCTTTTCGATGTCGTCAACCATTTCCTGC
ACAAGCGGCTGTCCGTCCAAATAATCCCAAACGGGCTTGTCCATACCGGTGTAAGGCCTC
AACTCGGGATCGTAATACGGGTGGGCGAGGCTGCGCATATCGAACATAAAATCCGCGTTG
TTCGGCACACCGTATTTGAACCCGAAGGACTCCAAATCACCAGCAGCCCGGTACGTTTCG
50 ACCTTCAGCCACTGCCGACTGCATGGCGGAGCTGTTGGGCATTTCATCTTGGAAGTGTCG
ATACAATAGGCGATTTCTTTAAGCGGGAACAGCCATTCCCGTTCTTTCTTTAAGCTTTCC
AACAAGGTCATATCCTGATTGCTCAGAGGATGTCCTCGCCTGGTTTCGGAAAACCGGCG
ACCAACACGCTTTCTTCGCCTCGACAAACAAACTTCAACCTGTGCCCCAGTCTGCGC

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AGAGAGGCAATCTGTTCCCGCGCCTGTCCGATGTCAATGCCGGAACGCACATCGACGCTG
ACCGCAATTCGGTTCGTCGCGACGTTTCGATATGATACGACACCAGCGCGGGCAACATT
TCCAAAGGCAAATTGTCCACGCAGAAATAACCCGAATCTTCCATTTGGCGCAGTGCACG
5 GACTTGCCCGAACCGGACAGGCGCTAATCAGGACGATCTTCATTGTGTGTTTCGTTTTTC
TTTAAGTTGCGTCTGATGGCGTTCCAAAAATTCGCGCGTACTGTCTTACCGCGCACTG
CAAAATGTAATTGCGTACCGCCGCTCAACCAAAACGGCAGGTTGCGTCCGACGGCGAG
GGGCGCGTAACCGAACGGACGTTGACGTTGAGGATGGATTTCGGTTTTCGGTGCGGATGCT
CAACCGGTCAAGCTGCTTCATATACTCGTCTCGCCCTCGACTAAATTGATAATGAGTTG
10 CAGGATTTTTTTGGGCGGATGGAAGTTTCGCCGAAAATATGGCGGATATTGAGTATCCC
CAAGCCGCGCACTTCCAAAAAATCGCGCAGCATAGGCGAACAACGCCCTTCCAGCGTTTC
CGGGCCGATGCGGAACAGCTCGACCGCATCGTCGGCAATCAGGCTGTGGCCGCGCGAAAT
CAGTTCCAATGCCAATTCGCTCTTACCCAGGCGGGAATGCCCGGTAATCAGCAGCGCGAT
TTCAAACACATCGAGAAATACGCGGTGTTTGACGGACGATGCCGCAAGGTGCGTTGCGAG
15 GTAAATCCGCAACACGTCATCAGATAGGGGCTTTTCGAGTTTGAAGTCAGCAGTGGAAT
ATCGTTTTTATGACAAATAGTCGCGCAGTCCCGGGGAAACCGGCAAGCCGTTTGCCACAAT
AACCAGACATAGAAATATCGAACAGGTGCGCAAACTGATAACCCGTTTCCCCGATTTC
GAGGCGGTTTCAGATATTCCGACTCTGCCAAACCGACCACTTGGATTGTTGGGATGAAT
GAAATTCAGGTGTCCGACTAGGGCGAGGACGGGCTTGTCGCGCTCTACGCCGATACGGTT
20 GTCCGCACCCGAATTGCCGGCGGCCAAGCGAGTTGCAGTTTGATTGGTTGTCATCAA
CAGGCGGCGGACGAGATCTGGGCATATTATTCTTCAGTCAGGATGGCAGGACTTCTT
CCGCGAGGAAACCGTCATCAGCGATTCTCTGATGCTTTTTTGGGAAAACCTTGCCGGCCA
GTTTGATAAGACTTCCAAATGCTCGCCGTTGCGTTTTCCGGAACCAGCAAGATAAAAA
TCAGGGAAACCGGCTTGCCGTCCGTTGCGTCAAATCCGACGGGTTGCGCGTGCGGATGA
ACGCGCCCGTTCGCTGCTTACGCGCGCATGACGCGCGTGCGGGATGGCAACGCCCTGCC
25 CCAAACCGGTGCAACCGAGTTTTTACGGGCAAAAAGACATTCGAAAACATCAGCATGGG
ACAAATGAGGATTCGCGTTCCAAAAGCAGGCGCTGCTTCTCAAACAGCCTTTTTTACTGC
CTACTTCCATATCCAAAACAATATGGGACAAAGGCAAAATTTTCGCCGATAAGGCTCATAA
GCTTCTCTTTTTCAGACATCGCAAAACAGAAAGATTGTACCGACTGCCGGGGCAAATCTCA
ATCCCGCATACGGTACGGGCTGACATAACACAGCGTTTTTAAAACATATTTTAACGCTTT
30 TCGGCACAGATAGAAATGCCGTCCAAAGCAGTTTACGGCTCTTCAGACGGCATTGCCCTG
CCTTATTTTCGGGAAAACGATATGGGCAAAAATGGCGGTAAACCACACCCAACCAATTCTG
TTGTTTGCCAAAACGTTTTCAAACAGATTGTCGGGACGCGGCTTTTGATGGCGGCATAT
TGGCGGTATTGCAGCAGCAGGACGATGGGGATTGCCGTCCAATATGCCCATGCCGCACCG
ATAACCGCACCAATACTGCCATCAGCAGGGTAAAGCCTCCGTGACACAGCATAACGGCG
35 CGATGTGCTGTAACGCCCAACGTGACGGCGGAGGTTTTGATGCCGATTTTCAAATCGTCT
TCTTTGTCCGCCATTGCATAAACCGTGTACATACGCCAGAGTCCATAACACATTGGCGGCA
AAGAGTATCCACGCTTGAGGCGGCACGTTTCCGGCAACGGCGGCAACGCCATCGGGATA
CCGAAGGAAAAGGCAAGCCCCGAGATAGAGTTGGGGAATCGGAAAAAACGTTTGGTAAAC
GGGTAAGTCAGCGCAAGAAACAGCGCGGGCAGGCTCATCAGCCAAGTCAGATGATTACAGC
40 GGAATCAGGCACAATGCGGCAAGCAGGCACAAAAATGCCGTGACGACGACGCTTCTTTT
TTCTTGACCCTGCCCTGTGCGAACGGACGTTTTTTGTACGCTCGACAGCACCCTCAAAA
TCGCGGTTCGCAAAAGTCGTTGATGACGACGCCGGCACTGCGCATTAATAACGTCGCCGATT
GTAAACGCCGCCAATACCGCCAAATCGGGAATGCCGTCTGAAGCCAGCCACAATGCCCAG
TAGGTCGGCCACAGTAAAAGCAGCGTCCCAATGGGCTTGTCGCCCGCATCAGGCGCAGG
45 TACACATCCAAACGGTCGGACAGGCGTAAAAATAAGGGGATTTAGGATTCATATTGCCG
CGCAGCTTGAAAAAACGGTATTTTATCCGATAAAACGTTTCAGTTTCGGGCAGAAAATACT
CGGTGACGACGATTTCTCGCCGTGACGGGAAAACCGAGAACGCCGCGCGGCAAGTACC
GTCCGATCCTTCGCGGCAACGGCAAACTCAAACGCCGAACGCGCCCTTCCAAATCGG
CTTGAAACAGACGCTCGCCCAAAGGACGCGTCCCGCAGTCCAAATGTTTTGCCAAAACG
50 CCGAACCAGATACGGCATTCGCTCCTTGCCCTCAACAACAGGGATACGGTCCAGCTTCAACA
AACTTCGCGCACACGCTCCCTCCGATTCGCTCTCAATTCGCCCAGTTTCAGCAGTT
CCACCGAAAATGTATGCGGCAAGGCGCGCAATGCGGCGGTGACGACCGGGTGTGCAGCA
GCCGCACCATCGGCAGGCTGATGCCGTCTGAAATGGCGGCGGGCAAGTCGGGCAGCCATT
TCCCAAAATAGGTGTTCCATATTTTCCCAATCTTTATACCGCTCTGTTTTTGCCAACTC
55 CACCAATTCCGCTTCGGAAAAATCGGCTTCAGACGGCATTTCAGTAGCTCAGGCTGTC
TTGGGCGATGTGTGCGTCGCGGCTGTGCTGGATGTGGTTGAACACGAGGCTGTGCAAGCG
AATGCCGTATTGTTTGAGCGCGGCGAAACTGAGTAAAGTGTGGTTGATACTGCCGAGCCG

TCCGCTGGTAACGAGGATGACGGGATAGCCTTGCTGACGGATATAATCAATGGTTAACAG
GTTTTCCGTCAGCGGAACCATCAATCCGCCCGCGCCTTCGACCAAAACGACTTCGTA CTG
CGCCGCCAATTCTTGTGTGGCGGTGCGGATTTTGTCCAAGTCCAAAGCCCTGCCATCCAG
5 TTTGTCGGCTTCTTGCATCGGTATGCCATAATTTGCGGTGGACGGCGATGTCGTGCGC
AATGTTTTGGCAACCGGTTTGACAGGGCTTTTGCCTAATCAGCTTTTGCCCTGCTGCAA
CAATTGTTTTGCCAACACGCCGCTGGCGACGGTTTTGCCGATGTCCGTGTCTATGCCGCT
GACGAAGTAAACGCCCTTTCATTTGCTGTCTTCAAGATTTGACAGGTTTTGTCGGCA
AGTTTGGTCAAAACGCCGCTGAAATGATATAGGGCGGCATCAGATACACCAGCCTGCCG
10 AACGGGCGCACCCAAATGCCCTGCGCCACGCAGTCCGCTTGAAAACGCGCCATATCCACG
CCTTTTTCCAGCTCGATACCCCGATGGCACCTAAAACGCGCACGTCTTTCACGCGCGCA
ATGTCACGCGGCTTTCAGACGGCTTTAAGATGCTTCAATGCGGCGGATATTTGCC
TGCCAGTCTTGAGACAAAAGCAGTTTGACCGAAGCGCAGGCAACGGCACACGCCAGCGGG
TTTGCCATAAACGTCGGGCGGTGCATAAACACGCCCGCTTCGCCGCGCGAAATCGTTTCG
15 GTAACTTTTGCGAAGTGATTGCTGCCCGCAGCGTCATATAGCCGCGCTCAAACCTTG
CCAATACACATAATATCCGGCAGCACCTCCGCGTGTTCGAGGCAACATCTTGCCCGTG
CGCCCGAATCCAGTGGCGATTTTCGTCAAAAATCAGCATGATATCAAATTCGTGCGACAAA
TCGTGCAATCCGCGAAGATACTGCGGATGATAAAAATACATGCCGCCGCGGCCCTGCACG
ACCGGCTCTAAAATAAAGGCGGCAATATCCGCATGATGCACTTCAAATAAGGCGCGGACA
20 GGCTGCAATCCGCCCGTCCCATTTCATCGTCGAAACGGCTTTTCGATTATCGACAAAA
TAACGCTGCGGCAACGCGCTGCCGAAAATATGGTGCATCCCGCTTTCGGATCGCAGACG
GACATCGCGTTCCAAGTATCGCCGTGATACCCGCGGCGCACCGTTCGCGATATTCTGCTTC
GCCGTCAAACCCCGCGCTGCTGGTATTGCACTGCCATCTTCAGCGCAACTTCCACCGAA
ATCGAACCCGAATCCGCATAAAAAATACGGTTTCAGCCCTGCGGCAAAATCCCGACCAAC
25 AACTTGCCAGTCCACCGCTGGCTCGTCAAAACCGCAACATCAGTGCGCCATT
TGTTTCATCTGCGTCTCAACCGCTGATTCAAACAGGATGATTGTAGCCGTGTATCGCA
CACCACAGGAGGACATCCCGTCAATCAGCCGCGTGCCGTCCGCCAATTCGATAAACACC
CCTTCTGCAGTTTGACAGGATAAACGGGCGAGCGGATCGGTTCATGGAAGTATAGGGATGA
AGCAGATGGGTACGGTCGAAATCAAGCAATGATGATATGTGTTGATGTTTCAGACGGCATA
30 AGTTTCTCTCTTTCTTCTTACTGTATTCAAACGCAAAACGCGTATTCTACTCCGACAGA
CCGTTTCCACACCTCTCCATCCGTTTCGGGCGCAAAACCGCGAAACAAATCGTCCGCAG
TATAAGCGCACACCGTTTCGCATCCCCAAGCCCGATTGGAATCAGACGGCCCAACGCCC
AATACCGTTTTCAGCAGCCTCCGCCCAACGCTTCAATCAGTCATAGATATAGTGGATTAA
CAAAAATCAGGACAAGGCAACGAAGCCGAGACAGTACAAATAGTACGGCAAGGCGAGGT
35 AACGCCGTACTGGTTAAATTTAATCCACTATAAAACGGCAATCCATACGATACAGATCA
TAGCAACAGCCATCGCAACAGCGTTAGCAAAATCAGGGGACTCCGACATAGGCGCATAGC
ACCTACCGATGCACGGCTCCTCATTGCGCTCTATGAATACCATACCCATCACAAAATCCA
CCGCCAAAACAGGCACGGCTTCTTATACTTATGATAGATTTCCACCATCCTGTCCATA
TATACCAAACATTCATACCGTATATCCCGCAGGCAACAAATTCGATTGAAGGTTACAGC
40 CCTATTTTATAGTGGATTAAACAAAATCAGGACAAGGCAACGAAGCCGAGACAGTACAA
ATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCT
AAGGCGAGGTAACGCCGTAAGGTTTTGTTAATCTACTATATTTCAAACCGGAAAAAT
GCCGTCTGAACCTTCAGACGGCATTCATTATATTTATTCGTCTTTTGTGTTTCGATG
45 GCGTTTCGGGAACGATTGCCGCGTAAGGCTTCAACCGTATATTTCCCTCGATAATA
TCGTATCGCGGAAAAGCCCTCTTTCTGCCGATTGGTTTCATGTTGAAAAAATTTTCC
GCACCTCTGCTGCAACACTGCCCTCCCTTAAACGGCAGCAGCAATACGCCAAC
ACCGAGGATACGAATCCCGGACTCATCAGACACACAGCCGCCACCGTATAACGGATAGGC
CACAACATCTGATAAACGGATACCTCCCGCGCTTCTCATTGCCGCGCCGCAATAAA
AGACGGGACAGCCCCGTATGCTTGAGCATCAGCAGCGCGGCGGCAAAACCTGCCGCCATC
50 AAAAACAACGTCCAGCCGCGCCAGCCAATCGGCAACCCACACAATCGACATAATCTCC
AAAAACAGCAGCACCAAAAAACCGATACCGAAAAATCTCATTGACCGTCATCTTATATT
TAAGTAAACAGCAAAACCGCCGAACAGGACTCCAAGCAGCTGCCTGTAAATGATTACAA
AACCATGTGCTTCAAGCCGAACAATGTAAATCTCGCAATATAGTGGATTAAACAAAAAC
CAGTACAGCGTTGCCTCGCCTTAGCTCAAAGAGATCAATTCTCTAAGGTGCTGAAGCACC
55 AAGTGAATCGGTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 278>:

gnm_278

```
5  GATGATGATCTTCCTATAGAAATAAGCCTGCCAAACTGGGTTCCGGGCAGCTATCTGATT
   CGGGATTTTTCCCGCCACATCACTTCTATCCATGCATCCTGTAACGGCACGTCCATGCCG
   CTCGAACAAATTGCCAAAACCGCTGGCATGCCGCCGCCGTACGCGGCGAGTGGCAAATC
   CGCTACACCGTATATGCATTTCGATTTGTGCGTTTCGAGGTTCTTTCTGACGACAGAACGC
   GGTTTTTTTACGCGATCGTGCCGTTTTTTAAAAGTCGAAGGAACGGAACGCTGCCGCAC
   CGCTTGGAAATTGACGGGTATTCCGTCCGAATGGCGTATTGCCACAACGCTGCCGGAACA
10  GGGAGGTTTGTCTTTCAGGCGGCATCTTATGCCGAATTGATTGACCGACCTGTCGAGATG
   GGCTTGATTGAATTTTAGATTTTGAAGCGGCAGGCATTCCGCACACAATTGCCTTAAGC
   GGCATATATCCCGATTTTCGACCGCAACAGGCTGGTTTCGGATATCAAAAAAATCTGCGAA
   ACAGAACTGGCGGTGTTTTCTCCCTGCCCGTTTCAAAAATATTTGTTCTGCTCCAC
   GTCGGCGACCATATTTACGGCGGTTTGAACACACCGACAGCACCGCCCTGCTCGCCGAC
15  CGCCACAGCCTTCCGCGTACGGTATGACCGATGCCGACGATACCTACACCATTTGCTC
   GGACTTTTCTCCACGAATATTTTCACGCGTGGAACTCAAATCCATCAAACTGCCGCG
   TTCGTCCCTTATGACCTCGACAAAGAAAATATACCGAACAATATGGGCATTGGAAGGT
   ATTACATCTATTACGACGATTTGTTTTTGGCAGCAGCCGACCATCTCGCCGAATCT
   TATTTAAACCTGCTGGCACAAGGCATTACGCGCGTACAACAAACCCGCGCCGTTTGAGG
20  CAGACCTTGGCGGAATCGAGTTTACCGCGTGGAAACAAATTTTACAAACCGGATGAAAC
   AGCCCCAACGCCATCGTCAGCTACTACCAGAAAGGCGCGCTTGCCGATTTGTCCTTGAT
   CTGATAATACGAACCGAAGCAACGGCAGACATTCTCTGATACGTTAATGGACAAACTC
   TATCGGGAGTGGAGGGACACACACTCGGGTATTCCGGAAAAACACTGGCAAATCCGCTGT
   CAGGAAATTACCGGCTTGGATTGGAAGATTTTTTCAAAAAGCGTTATACAGTACCGAA
25  GATTTGCCGCTTGCCGAATGCCTGGCAACCGCAGGCGTGGGACTGACCTTCTGCCGCTT
   CCCCACAAACACGGCGGGGATACGCAGAACACATCTGCCCGTCCCGTCGGCAGGCGAT
   TTTGGCGCAGTTTTCAACAAAACACCGACCATCGTCTTGACCATGTCTTCAACGGC
   GGCAGCGCGGAATCTGCCGCACTGTGCCCGCAAGACAAAATCATTGCTTTAGACGGTTAT
   GCCTGCACCGCATTTACCGCACAATGGGCCGATACCACGTCATGCAAAAATCAATATC
30  CATCTTCTCCGTGCCGATATTGCGTCAAACCGTCTTGACGGTTACGGCAGCGGCAGCG
   GATACTGCCATCCTACATATCACAGACCGGAACCTGTTGGACAACTGGTTGTTGCGTTAA
   ACTTTTCAGACGGCATTGCACACAAAATGCCGTCTGAAAAACAACCGCAAAGTAAAGGAAA
   CAAAATGGCCATTCTGAACTTGACGAACACCTCTATATTTCTCCGCAACTGACCAAAGC
   CGATGCCGAACAAATCGCGCAACTGGGCATCAAAACCGTCATCTGCAACCGCCCCGACCG
35  CGAAGAAGAAATCGCAACCCGACTTCGCCCAATCAAACAGTGGCTGGAACAAGCAGGCGT
   TACTGGATTCCATCACCACCCGTTACCGCAGCGACATCCAAAAACACGATGTCGAAAC
   CTTCCGCCAACTCATCGGACAAGCCGAATATCCCGTCTTGCTATTGCCGGACCGGTAC
   GCGCTGCTCCCTCTGTGGGGCTTCCGCCGGCGGCAGAAGGTATGCCGTTGACGAAAT
   CATCCGCCCGCCCCAAGCGGCAGGCGTAAATTTGGAAAACCTCAGAGAGCGGCTGGACAA
40  CGCCCGCTCTGATTACAAGCCGAAACGTTTAAACCACACCTTCAAGCGGCATTCCACCG
   CAACTTGAAAAAGAGGACGGCAAACCTTACTGCCGTCTCTGTCTTCTCCGTTTTTACA
   GTGGGAGACCTTTGCAAAAATAGTCTGTTAACGAAATTTGACGCATAAAAATGCGCCAAA
   AAATTTTCAATTGCCTAAAACCTTCCTAATATTGAGCAAAAAGTAGGAAAAATCAGAAAA
   GTTTTGCATTTTGAAAATGAGATTGAGCATAAAATTTTAGTAACCTATGTTATTGCAAAAG
45  GTCTCAGTGGGTATAGCGGATTAACAAAACCACTACGGCGTTGCCTCGCCTTAACCTCAA
   AGAGAACGATTCTCTAAGGTGCTGAAGCACCAGTGAATCGGTTCCGTACTATTTGTAAT
   GTCTACGGCTTCGTTGCCTTGCTGCTGATTTTGTTAATCCACTATAAAAAATTAGAAATGC
   ACATTTTCATTATTCTCGCGCAGGACGAGTCCAGACTTACCCATTTTCAGTAATGTTTGA
   AAATAAAAGAAAAATCAGATGTTTGTATTCCCGCCTGCGCAGAAATGGAGACGGTGCTCT
50  TCGTCTCATTTTTGTTTTAATCAACTATATAGCTGATTAAACATAAGAAATGCCGTC
   TGAAGAGCTTTTCAGACGCGATTTCGTTCAAGCGTCGAACCTTATTGCGCCTTGTTTCGGT
   TACAAAACCGATTTTGGTGATTCTGCTGACGGCGGCTTCTAAAGCTTTGTTTACATA
   ATCGTATTCCACCGCTTGTCTGCCGAATCGCCACAATCACGTTTTTCATTCTGCTCCTT
   GGCGGCTTTCAGACGGCTTTCACCTTCCCCGATTTTCACCTTTGCTTGAGAAATCCCCGC
```

5 GACATAATAGCCGCCGTTTCGCATCAATCGTCAGGCGCAGGGGGTCTTTAGGCTGTTTGTC
CTGCTTGTTTGTCTGCTCGGACGCGGTGCGCAGTTCCAAAGGGATGGAATGCGTCAGCAC
CGGCATAGTAATCATAAACACAATCAGCAACACCAGCATCACGTCCACCAACGGCGTAAC
GTTGATGTCGGACATCGGAGAATCGTCGCCGGAATTCATCGAACCAATGCCATAATCAG
10 CTATCCTTTTGTATTAAGCAGGCGGACGTGCAAATCGTGCGCCATCGCATCCAAATCCTGG
GTCAGTATTTTGTGCCGCGATTGAGGAAGTTGTATGCCAACACCGCCGGAATCGCCACG
AACAAACCCGCCGCCGTGCGCACCAAGTGCCTCGCCAATCGGGCCGGCAACCGCCGCAATA
CTCATCTGCCCGCTTTGCCCGATATTGATCAGGGCGTGGTAAATCCCCCAAACCGTGCCG
AACAGCCCGATAAACGGCGCGGTGCGCCGATGGAGGCAAGCGCGGTATCCCGTAATCA
15 AACCGGCGCATAATCTGCGCCATACTGTTGCGGATTTGAATGACCAAATACTCGTTCAAC
GGCAAAGCCTGCGCCAGTTTCGGACGCTTCGTTTCGGCGGTAGTTGCGGTAAGACTGCAAT
GCCTCTTGCGCCAGTTTGGACAAAGCGCATCGACGGCGCGCACTTTTTCGACCGCGTCG
TTCAGCGCAAAAGTATCGCGCATATGCCGTTTGACGGCGGCATTCCCTTTGCGCGCCCGA
TACAGCTTGATGCAGCGCAAGACAACCAACACCAGTTACGATACTCATCAACAGCATC
20 AACACAAACACCAATCAGGACGGGATCGCCCGATTCAAACACTAATTTCAAATTCATA
ATGATTCCAACACTGAAAAAACCAATCAAACATCCAAGCTGCCGCAACCGCTGCGGCAA
CCGCCTAATTCATTTCAAACCTTGACGGGGACTTTAACTCCGTCCAGGCATTGGCTTGAA
AATGCCCGTTTTGCGCCGCTTGCGTGCCGATTGTCCAACCGGGAACCACTGCTTT
TCAGGATTTTAAACGGACTCAACATGACCGCCCGGAGAAACCAAAACGCTCAAAACAACCG
25 TACCCTGCTCGTCATTCTCCATAGAAAGCGTGGGATAAGCCGGGCGCGGAATGCTGCCGT
TGGCGCGTAAAGGATTGCCTTTGCTGCTGCCGGCTCCTTCCCGTGTTCGCTTTTGACAC
CGCCGCTACCTTTACCGCTGCCTTCTCCGCGCCCGTTCCGTCTCCTTTGGTACCAGTTC
CCTTATCTTCCCATTTGCCCTGCTCGCTGTCTGCTTTGGCAGAAGCATTGCCGGGATGTT
CGGCAGGTTTTTCAGACGGCTTCTCGACCGGTTTTTCCGCGGTTTTCGGGACAGGCTTCG
30 CTTCCGGCTTAGGCTCTGGTTTTCGGTTTTTCTTCGGGTTTCGGCTTTTCTCAGGTTTTCG
GCTCTTCTTAGGCTGCTGAATATCCGCATCCGCCTTTTTCGTAACCAACCGGCTTCAAAA
CCGGCTTGGGCGGCTCGACAGGTTTGGGCGGCTCGGGCAGGGTTGCGGTTGGGCGCAG
CAGGCGCGCTGCACCTTCGGGGCGCGCTCCCTCCGCCAAATCGCCAAATCGACAA
ATTCAATAACATTGCCTGACTCTATCACGGGCGAGTTGTGCGCTGCCAGAGCAATGCCA
35 CCATTGCCAAATGCACGAGTGCACGGAACACGACTGCGGGGGTTAAATTCGTTCTT
TATCCATAATTCGGGCATAATAATAGCAGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 279>:

gnm_279

35 ACGACCAAGGTACGCGCAATCTGGTGGCGGCAAGTATCGCCATCGATATGGTCAAAGTCC
TGTCGCCGAAGGCGTGAAAGATTTCCACTTCTATACGCTTAACCGCAGCGAGCTGACTT
ACGCCATTTGCCATATTTTAGGCGTGCGCCCTTAAAGCCGTATCAAACAGTTTCAGACGG
CATCTAAGGTGTCTAAAAAGCAAAACACCGCCCCATCCGAGCCATTCTGATTTACAATAC
CGGCCGATTTCGGATTGAACCGGTCTTACAAAATCCAACCTGGAGAGTTCAACATGACAAC
40 ATTACATTTCTCAGGCTTCCCGCGTGTGCGCGCCTTCCGCGAATTGAAATTCGCACAAGA
AAAATACTGGCGCAAAGAAATCAGCGAGCAAGAATTGCTGGCTGTTGCTAAAGACTTGCG
CGAGAAAACTGGAAACACCAGGTGCTGCCAACGCCGATTTGTTGCCGTAGGCGATTT
CACTTTCTACGACCACATCCTCGACCTGCAAGTCGCCACCGGCGGATTCCCGCCCGCTT
CGGCTTCGACAGCCAAAACCTGTCTTTGGAACAATCTTCCAACCTGGCGCGCGGTAACAA
45 AGACCAATTGCTATCGAAATGACCAATGGTTTCGACACCAACTACCACTACTTGGTGCC
TGAATTCACGCCGATACCGAATTCAAAGCCAATGCCAAACACTATGTTCAACAACTGCA
AGAAGCCCAAGCCCTCGGTCTGAAAGCCAAACCGACCGTTGTAGGTCCGTTGACTTTCTT
GTGGGTGGGTAAAGAAAAAGGCGCCGTGCAATTCGACCGTCTGAGCCTGTTGCCTAACT
GTTGCCGTGTTACGTTGAAATCCTGACTGCTTTGGTTGAAGCCGGTGCCGAGTGGAATCA
50 AATCGACGAGCCTTGCTTGGCTGTCGATTGCTTAAGAAATGGGTGGAAGCCTACAAAGA
CGTTTACGCTACTTTGAGCAAAGTAAGTGCCAAAATCCTGTTGAGCACTTACTTCGGTTC
TGTTGCCGAACACGCCGCAATTGTTGAAAGCCCTGCCTGTTGACGGTCTGCACATCGACTT
GGTACGCGCCCCGAGCAACTGGACGCGTTCGCCGACTACGACAAAGTCTGTCTGCCGG

CGTGATTGACGGCCGCAACATTTGGCGCGCCAACCTGAACAAAGTTTTGGAACTGTCTGA
GCCTCTGCAAGCCAACTGGGTGACCGTTTGTGGATTTCCAGCTCTTGCTCGCTGCTGCA
CACTCCATTTGACTTGTCACTTGAAGAAAACTGAAAGCCAAACCCGACCTGTACTC
TTGGTTGGCATTACCCCTGCAAAAAACCAAGAATTGCGCGTTCTGAAAGCTGCATTGAA
5 CGAAGGCCGTGATTCTGTTGCCGAAGAACTCGCCGCCAGCCAAGCTGCTGCCGACTCCCG
TGCCAACAGCAGCGAAATCCATCGTGCAGACGTTGCCAAACGCTGGCCGATTTCCTGC
CAACGCAGACCAACGCAATCTCCATTTGCCGACCGTATCAAAGCGCAACAAGCATGGTT
GAACCTACCTCTGTACCGACTACCAACATCGGTTCTTTCCCGCAAACCACCGAAATCCG
10 CCAGGCACGCTCAGCCTTCAAAAAAGCGAACTGTCTGCCGCCGATTACGAAGCCGCGAT
GAAAAAGAAATCGCCTTGGTGGTTGAAGAGCAAGAAAACTGGACTTGGACGTACTGGT
ACACGGCGAAGCCGAGCGTAACGACATGGTTGAATACTTCGGCGAATTGTTGAGCGGTTT
TGCACTTACTCAATACGGCTGGGTACAAAGCTACGGCTCAGCTGCAAGCAACCACCGAT
TATCTTTGGCGACGTAAGCCGCTCTGAAGCCATGACCGTGGCTTGGTCTACTTACGCACA
AAGCCTGACCAACGCCCCGATGAAAGGTATGTTGACCGGCCCTGTAACCATTCTGCAATG
15 GTCTTTTCGTCGCAACGACATTCCTCGCTCTACCGTGTGCAACAAATCGCACTGGCTCT
GAACGACGAAGTATTGGATCTGGAAGAAAGCCGGCATCAAAGTCATCCAAATTGACGAACC
TGCCATCCGCGAAGGCTTGCCGCTGAAACGCGCCGATTGGGATGCCTACCTGAACCTGGGC
GGGCGAATCCTTCGCCTGTCTCTGCCGGTTGCGAAGACAGCACCCAAATCCACACTCA
TATGTGTTACTCCGAGTTCAACGATATCCTGCCTGCGATTGCTGCAATGGATGCGGACGT
20 GATACCATTCCGAGACTTCACGTTCCGACATGGAACCTTTGACCGCGTTTCGGCGAATTCCA
ATACCCGAACGACATCGGCCCGGGGTTTACGACATCCACAGCCCGCGGTACCGACAGA
AGCCGAAGTGGAGCACCTGTTGCGCAAAGCCATCGAGGTTGTACCGGTTGAACGTCTGTG
GGTTAACCCGGAAGTGCAGGCTGAAACACGCGGCTGGAAAGAACTCTGGAACAACCTCCA
AGTAATGATGAACGTAACCCGAAAACTGCGTGCCGAATTGGCGAAATAAGCCGAGACCGT
25 ATGAATAAATACCGTCTGAAAGCCTTTTCAGACGGTATTTTGTCTGATTTCGGCGCAAG
GGCGAGTTGCCGAAATCTTTTCATTGACGTTGTTTTTTTCTAATTCGGCTTTATAT
GTGGGAAACAGCAAAATCGGAGTTGTGTTTGATAGTTTTAAATAATTTATATTATTTGAA
CTATAAATTATACAAATCATTTTGCATGGGGTAGAATGCCAGCGATTACAAATTATTTTC
TCAAACCAATCTATTAAGGAGCTTAAATGGCTTTGCAAGATCGTACCGGTCAAAAAGTA
30 CCTTCCGTAGTATTCCGCACCCGCGTCGGCGACACTTGGAAGATGTGTCTACCGATGAT
TTGTTCAAAGGCAAAAAAGTAGTCGTATTCTCCCTGCCCGGTGCATTTACCCCGACTTGT
TCTTCTTACACCTGCCGCGTTACAACGAATTGTTCCGGCGGTTCAAAGAAAACGGCGTT
GACGCAATCTACTCGGTATCTGTAACGATACGTTGTAATGAACGCTTGGGCTGCCGAA
GAAGAATCCGACAACATCTACATGATTCTTACGGCAACGGCGAATTTACCGAAGGTATG
35 GGTATGCTGGTGGTAAAGAAGACTTGGGCTTCGGTAAACGCTCTTGGCGTTACTCCATG
CTGGTTAACGACGGCGTGGTTGAAAAATGTTTCATCGAACCTGAAGAACCGGGCGATCCG
TTCAAAGTATCCGATGCAGATACTATGCTGCAATTGCTTCCGATTGGAAGGCTCAA
GAGTCTGTGGCAATTTTCTAAACCAGGTTGCCAATTCTGCGCTAAAGCCAAACAGCT
TTGCAAGACAAAGGTTTGTCTTACGAAGAAATCGTATTGGGCAAGATGCAACCGTCACT
40 TCCGTTCCGCGCCATTACCGGCAAGATGACTGCCCCCTCAAGTCTTCATCGGCGGTAAATAC
ATCGCGCGCAGCGAAGATTGGAAGCTTACTTGGCTAAAACTGATAGCTGTTTGTCTTAA
GGCGGTTTAAATAAATGTCTGATATACCGGATAGAGTTATTCGGGCGGTTCTACACTAC
CGCTCCGAATAACTCTATATTTATAAGAGAATTTGGATATTGTTGCACTCAATCGAAATT
TTGTTTTTATTTATCTGAATGATGTTTTTATTGTTGGGAAAATATTTAAATGCCGTCTGAAA
45 CCGATATGTTCTGTGTCGCAATGTTTCAGACGAAAACGGAAGGACAAAGATTATGAAAA
AAATTCAAGCGGATGTCGTGTAATCGGCGGCGGTACTGCCGATGCGGTGCGTTTCGCA
ATGCCCGTTTACATTCGGATAATGTTTACCTGATTGAAAACAATGTGTTTCGGCACGACCT
GCGCGCGGTGGGCTGTATGCCTTCCAAACTCTTGATTGCCGCCGAGAGGCGCGTCATC
ACGCATTGCATACCGACCCGTTCCGGCGTCATTGACAAAGACAGCATCGTCGTCAACG
50 GTGAAGAGGTGATGCAGCGCGTTAAATCCGAGCGTGACCGTTTTGTGCGCTTTGTGCTTG
CCGATGTGGAAGAGTGGCTGCCGACAAAGCGCATTATGGGTTCCGGCTAAATTTATCGACG
AGCATACCGTCCAAATCGACGAGCATACTCAAATTACGGCAAAAAGTTTCGTGATTGCTA
CCGGTTCGCGTCCCGTCATCTGCCGCAATGGCAGTCTTTGGGCAATCGTTTGATTATCA
ACGATGACGTTTTCTCATGGGATACGCTGCCTAAGCGCGTTGCCGTGTTCCGGCCGGGTG
55 TTATCGGTTTTGGAAGTGGGTACGGCATTCGACCGTTTTGGCGGTGAAAGTTGAAATTTTCG
GTTTGGGCGGAATCATCGGCGGCATTTCGACCCCGTCGTTTCAGACGAGGCGAACGCCG
TGTTCCGCGAAGAATTGAAACTGCATCTGGATGCTAAAACCGAGGTCAAACCTCGATGCAG

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ACGGCAATGTAGAAGTCCATTGGGAGCAGGATGGCGAAAAAGGCGTATTTGTTGCCGAAT
ATATGCTGGCAGCCGTGGGCGCGCGTCCGAACGTTGACAATATCGGTTTGGAAAATATCA
ATATCGAAAAAGATGCGCGCGGCGTACCTGTTGCCGACCCGCTGACCATGCAGACCAGTA
5 TTCCGCATATCTTCATCGCAGGCGATGCGTCCAACCAACTGCCTCTGCTGCATGAAGCTG
CCGACCAAGGCAAGATTGCCGGCGGATAACGCGGGCCGCTACCCGAATATCGGCGGCGGTT
TGCGGCGCAGCACCATCGGCGTGGTGTACAGTCCGCAAATCGGCTTTGTCGGTCTGA
AATACGCGCAGGTTGCCGCGCAATACCAAGCCGACGAATTTGTCATCGGCGAAGTATCGT
TCAAAAACCAAGGCCGCGAGCCGCGTGATGCTGGTGAACAAAGGCCATATGCGCCTGTATG
10 CCGAAAAAGCCACCGGCCGCTTTATCGGCGCGGAAATCGTAGGCCCTGCCGCCGAACATT
TGCGGCACCTGTTGGCTTGGGCACATCAAATGAAGATGACCGTTCCGCAAATGCTGGATA
TGCCGTTCTACCATCCCGTTATCGAGGAAGGTCTGCGTACCGCGTTGCGCGATGCCGATG
CGAAATTGAAGCCTGACCGATATGGCAAAACAATGCCGTCTGAAATTTTTTCAGACGGC
ATTTTGTGTTTTGGGGATGGGGTCGGATGCTGATACCGTGTGCGGAAGGGGCGGCAAAAC
TAAAAATCTTTCTATTTAATCTGCTGTTTCCACGCGTGTGTTGTCAAAATCTATCAGTTTG
15 TTTTAAATACACTGTTCAAAATGGGATAAAACAGGTAAATTAACGTTTATGTAACCCA
GTGTAGCAATGGGTTTACGGTTTTGAGTCGATATATACTACAGAGGAATTGACTATGT
CTGCCAAACCGCTCCTGTTTATCTGGATTTGCCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 280>:

20 **gnm_280**

GCATACACGCCTTAACCTTAATTTGCAAAATGACCGTGCTAAACAAATGCCGTCTGAAAG
TGGAGATTGGTTTTTACAGCGGCATCGCCCGAGAGATGTCGAAATGGACTTTATCCCAT
TCCTTTTCGGTTGAAACCCGCTCTGTTTATGGCGATAGAATCTAATCGGAGGGTAGTCTCG
25 TTCCGGCAACACGCAGTGCAGTGTGATGTGCCGTCCCCTGTTGAAACATATAAAGCTC
GGAGAAAGTATAGTGGATTAAATTTAAACAGTACGGCGTTGCCTCGCCTTGCCGTACTA
TTTGTACTGTCTGCGGCTTCGTGCGCTTGTCTGATTAAATTTAATCCACTATATATAA
GGGCATCATCTCTGACCCGGCAAGAATCCGAACCCGAACGTTTGAACAAATCCCGAATC
TCCGAATTTCCCGCTGTGTGGGAATGACGAAAAACAAGCATTCTTTGCCCGAAGCAG
TTAATCAACCCCTTTCCGCCACACACCTATTCCAATATCCAATGAAAACCATCACAGAAAC
30 CCTAAATCTGCCCCGAAAGGCAAAACTTCTGACCGCCGATTGGCCCGCGCCCGCCAA
TGTGAAAACCTGATTACCACGCGCAACGGCGGCGTGAGCAGAGGTGCGTATCAGAGTTT
GAACCTCGGTACGCACGTGCGGCAATCCCGAAGCCGTGCGCCGCAACCGCGAAATCGT
GCAACAGCAGGTGCGACTGCCCGTTGCCTACCTCAATCAAATCCACAGCACCGTCTGCTG
CAATGCTGCCGAAGCGTTGGGAGGCACACCCGATGCGGACGCTTCCCTAGACGACACGGG
35 CAAGTTTGCTGTGTCGCTGATGACCGCAGACTGCCGTGCCGTTCTATTTTGCACAGGGC
GGGTACGCGGTTGCCGCCGACACGCGGGCTGGCGCGGTTTGGCGGCGCGGCTACTGCA
AAACACCATAGCCGCAATGAAGGTTCCGCCCGTCGAAATGATGGCGTATCTCGCCCCGC
CATCAGTGCAGTATGCGTTTGAAGTCGGACAGGATGTGTTTATGCGTTCTGCACGCCCAT
GCCCCAAGCCGCCACCGCATTTGAAGGCATAGGCAGCGGCAAAATTCCTTGCCGACCTTTA
40 CGCGCTCGCCCGCTGATTCTGAAGCGCAAGGCGTGGGCGGCGTATATGGCGGCACGCA
TTGTACGGTTTTTGAACGGGATACTTTCTTTTCTACCGCCGCGACGGAGCGACAGGGCG
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ACCGACTTTGTGTTTTTGAAGAAAGGCAAGCCATGAACAACTGTTTCTTACTGCCGCACT
GCTGATGCTGGGCGCGTGCAGTTTCCACCTGAAAGGTGCAGACGGCATTTCTCGCCGCT
45 GACCTACCGGAGCTGGCACATCGAAGGCGGACAGGCATTGCGGTTTCTTTGGAAACCGC
GCTGTATCAGGCTTCGGGACGGGTGGACGATGCTGCCGGCGCGCAGATGACCTGCGTAT
AGACAGCGTTTCCAAAACAAGGAAACCTACACCGTTACCCGTGCGGCAGTCATCAACGA
ATATCTTTTGATATTGACGGTTGAAGCGCAGGTATTGAAACGCGGCGAGCCGGTCGGTAA
ACCGATGACCGTGTCCGTCCGCCGCTCCTTGCTTATGCCGACAACGAGATCTTGGGCAA
50 ACAGGAAGAGGAAGCGGCATTGTGGGCGGAAATGCGGCAGGATGCCGCCGAACAGATTGT
CCGCCCGCTGACCTTTCTGAAGGCGGAATGACGTGGCGGCACATATCGGACGCATTGATA
CGGACGCGCCTTTGAAACCCCTGTACGTATCCACGGCGAGGAAGAACTGTTGCGTATCG
AGGCATTGGACGCATTGAGGGCGGCGGCAAGAAACAAGGTTACCTTAATCGGGAAGTTT

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10 TGTAAAGTAAATTTAAGCATAAGATTGAATGTCAGTTGGGCGACAGGGGTCGAAATATAT
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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 281>:

gnm_281

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50 CACGTCCCCATACGGATATTGCCGTCCGCGGTGTAAAGTTGTGCGGCATCCATACCGATT
TTGCCGGCGATTTCGCGCGCGGTGGCAGGCATAACCTGCATCAGCCCCCTGCGCGCCTACG
CGGGATTGCGCGCCTATAACGAAGCGGCTTTCTGACGAATCAGCCCATAAACCCAAGCC
GGATCGACATTAACATTTTGCGCGTGGCGGATTACCGTGTCTTTAAACGGCGAAATATAG
CGCAAGGTGTAGTTGAGTTTGCGGTCCGTGCGTTCCGCGCTGTTGACCGCCATATCGTAA
55 AAACCGTGGTCAACGCGGTTTCGCGCGGCGGTGAGCAGCTTGTCTTCGTCAAAGCCGCGT
GTGGCAAAACGCCATTCCGCCTGAGCCTGACGGCGCATTTTTGCATCACCGGCAGATTGG
CTGTTTTGGAACAGTACCAGTGCAGCTTTGACTGCACCGTCTTCCGCCATGCGGCGGACG

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CTGTTTTTGCCGGCATCGGGCACATTGTTGCGCGTATCGATTTTCCGACCCAATTCTTCC
CCTGCCAGCACC GCATAAAAATTCCTGCCCGTCGCTGCCGCCTGTTTGTAAGTTTTTC
GCCTCTTGCGTGTGCCCCGTGCGGCGCGGCTGCGTGCCAGCCAGTAGAGCCAGGTCGGG
5 CTTTTTGCAGTTTTTTCGGGCATATGCGAGATAACGGAGGCCAGCTCGTCCCAACGTCGG
GCGCGCAAGGCGGCGCGGGCGTACCACTCGATTTGGTCGTCGGTCAGTTGGCGGCGGTCG
GCAACCTTGCCGTAATAGTCCAAGGCGGCAGGCACATTGAGGTTTTGCGACTGATAATGC
CCCAATACGCCCCACGCGAAACTGCGTTGTTGAGGCTTAAACCGCTTTCATTTCGGAC
AGCAGGCGGCGGCATTGCGGATTTGCGTGCTTCTTTGCGGATGACGTTCAACAGGGCA
10 TATTGCGCGCAACCTTGTGTACCGCCGTCAAACGGGCTGCCCAATGCGGCGGCAAGGTTG
CGTGCGTCTGTGGTTTGGCGGCGGCGCAGCAGTCCGCGCACGCGCCTCCAGGCGTCGTTG
CCGTCCAACAAGCCGGATGCGGCTGCCTGTTCCAACAGTTTGGTGACGCCGAAGGCAGT
TTGCCGCTATTTTTGACAGTTTCAGCGGCACGCGTATAGTCGTTGCGGCTCGAATCGGCG
TAGCATTGCACTTCTTGGGCGCGCCCTGCCGGTTCGAGTTTGGCGTATTCTGTGCAAAC
AGCGTCCACTGTCTGCGTGCGCCCAAAGACTTCAGCCACTCGTTGCGGACATTTTCCGCC
15 ATCGCGCTGTCGCCGGCTTTTCCAAATAGGCGGCGACGGCGGCATCGTTTTTCTGTTC
ACTGCATCCAGTGCGGACGGGTAGCCGCCGTAATCTGCCAGCGTTTTTCTTTCGGGTTTCG
GCAGGCGGGGTGGGAACGCTTGCCGAAAGGTGCGCAGTTTCTATATTGTCTGCCGGGGTC
TTGCCGCTGCGAGTGTGTTTGTGCAAGAACACGCGGCAAGCACCAGGGCCGCCAGCAGC
GGCAGGGAATGCTTCATAGAGGGTAGGTACATCGGATTTCTTAAGAATCGGAACCTTGA
20 ACGGTCAGGGTTGGAAAGACAAAATGCCGTCTGAACAGGCGTTTGGCCGAATTATATGC
CGAAACTGCACCGCCTTTGGAATGTTTCCGACATAATTTATAGTGGATTACAAAAACCA
GTACGGCGTTGCGCTGCGCTTAGCTCAAAGAGAACGATTCTTAAGGTGCTGAAGCACCAA
GTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCTGATTTTTG
TTAATCCACTATATGTTTTCAATTATTTGCCGTTTTGGTGCGAACCCTGCCTTTGCC
25 GTTTCAGACGGCATTGTCGGAATGGTTGCCGCTTCCTGCTTTATTGACAAAAAATGC
TTTCCCGATAATATCCTACGAAAATTAACCTGCCGATTGACACAGCTTGCGGGCATAAC
AGCTAAAGCGTTCCGACAATTTAGCTTTATCTTCCGCGCCCGTTGTGTCCGACATCGGG
CTTTGTTGTATGGGAAAGACAATGATTATTTGGACAAGGTTTCCAAGCATTACCAAACG
CGCGACAAGACCGTTTTTGGCGCGTCGAGCCGACCAGCTCGAAATCCGCGACGGCGAA
30 ATCTTCGGGCTGATGGGTTATTTCGGGTGACAGGCAATCCACCCTGTTGCGCTGATTAAC
CTGTTGGAACGCCCCGACAGCgCAAGGTCAACGTCTGCGACAAGAGCTGACCGCGCTCGA
TGCCGCGCATTGCGTCAGGCTCGGCAGAATATCGGCATGGTGTTCAGCAGTTTAATCT
TTTGAGCAACCGCACCGTTGCCGACAAATGTTGCCTTTCCTTTGGAAATCGCCGGATGGCC
GTCTGAAAAAATCAAAGCGCGCGTTAAAGAATGCCTTGAAATCGTCGGCTTGACCGAACG
35 CGCCGGCCACTATCCCGCCAGCTTTCGGCGGGCAGAAACAACGTGTCGGCATCGCCCC
CGCACTCGCGCCCAACCCCAAGTCATCCTCGCAGACGAACCCACTTCGCGCCTCGACCC
CGCCACCACGCGCAGCGTCTTGAATGTTTGAAGACATCAACAAACGCTTCAACGTAAC
CATCGTCATCGTAACCCACGAAATGAGCGTCATCCGCGCCTGTGCGACCGCGCGCCCT
CTTGGATAAAGGCAAAGTCGTGAAATCGTCGAAGTACGCGGCAACCAAATCCACGCCCA
40 ATCCGACATCGGGCGCAACTGATTCCGGAGGACTGATATGGCAGACTTAACATTCCAAC
AAGCCGTTTCCACCACgCGGCATGAAAGACGAAATCTTCCGCGCCTTGGGCGAAACCT
TCGTGATGGTCGGCTTGTCCACCACATTCGCCGTCTCTTCGGCACGCTGCTGGGCGTGC
TGCTCTTCGTAACCTCCAGCCGCCAACTGCATTACAACAAGCTGGTGAACCTCCTGCTCG
ACAACCTCGTCAACCTCATGCGCGCCTTCCCCTTCGTATCCTGATGATTGCGATGATAC
45 CCGCCACACGCGCCATCGTCGGCAGCACCATCGGTCCGGTTGCCGCTCGCTGGTGTGA
GCGTGTGCGGATTGTTTTATTTGCCCGACTGGTGGAACAAAACCTGCGCGAAGTCCCCA
AAGGCGTAATTGAAGCCGCGCGCGATGGGTGCGCCGCCGATTGCCATCGTCTGCAAAG
TCCTCTTGAACGAAGCGCGCGCGGGCATGGTTTCCAGCATTACCGTGCTTGCCATCGGGC
TTTTGTACATACGCGCGGCGGAGGATGATAGGCGGCGGCGCTTGGGCGACCTCGCCA
50 TCCGCTACGGCTACTACCGCTACCAACCGAAGTCATCATCTTCATCGTCGCCCTCCTCG
TGCTGCTGGTCACTGATTCAAGCACCGGCAACGCGTTGGCGCGGAAACTCGACAAAC
GTTGAACCCGAATGCCGTCTGAACGCCAAACCCCAACGCTATCCGAAAAATGCTATAA
AATCCCCCTGTTGCGGCAAATGCCGTCTGAACGCCGAATCCGGACGGCAGGACTCCCTG
CCCGTCATTTTTGTTGAAACTGCCACAACATCAGGAGAAAATATGAAACCTTCTTCAA
55 AACCCTTTCGCGCGCGCACTCGCGCTCATCCTCGCCGCTGCGGCGGTCAAAAAGACAG
CGCGCCCGCGCATCCGCTTCTGCCCGCGCGACAACGGCGCGGCGAAAAAAGAAATCGT
CTTCGGCACGACCGTCGGCGACTTCGGCGATATGGTCAAAGAACAATCCAAGCCGAGCT

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GGAGAAAAAAGGCTACACCGTCAAACCTGGTCGAGTTTACCGACTATGTACGCCCGAATCT
 GGCATTGGCTGAGGGCGAGTTGGACATCAACGTCTTCCAACACAAACCCATCTTGACGA
 CTTCAAAAAAGAACACAATCTGGACATCACCGAAGTCTTCCAAGTGCCGACCGCGCCTTT
 5 GGGACTGTACCCGGGCAAGCTGAAATCGCTGGAAGAAGTCAAAGACGGCAGCACCGTATC
 CGCGCCCAACGACCCGTCCAACCTTCGCCCCGCTCTTGGTGATGCTCGACGAACTGGGTTG
 GATCAAACCTCAAAGACGGCATCAATCCGTTGACCGCATCAAAGCGGACATCGCCGAGAA
 CCTGAAAAACATCAAAATCGTTCGAGCTTGAAGCCGCGCAACTGCCGCGTAGCCGCGCCGA
 CGTGGATTTTGGCGTCTGTCACGGCAACTACGCCATAAGCAGCGGCATGAAGCTGACCGA
 10 AGCCCTGTTCCAAGAACCGAGCTTTGCCTATGTCAACTGGTCTGCCGTCAAACCGCCGA
 CAAAGACAGCCAATGGCTTAAAGACGTAACCGAGGCCTATAACTCCGACGCGTTCAAAGC
 CTACGCGCACAAACGCTTCGAGGGCTACAAATCCCCTGCCGCATGGAATGAAGGCGCAGC
 CAAATAAGGCAGTCGTATAAAATGATGCCGTCTGAACTGTATCCGTGTTTACGACGGCATT
 TTTGTCTTTAATCCGCCATTCCCTGCCATTCCGCCGAATCCGGCGTATCGATTCCGAAC
 AGCGACAAAGCGTGTGCAACACTGTGCGCCACTATGTCGTCCGCGTCTCGGTTTTCGCG
 15 TACATCGCAGGAACAGGGGGAACACACCGCCGCCATTTCGGTTACCCGCTTCATATTG
 TCCAAATGGGCAAGGTTTACGCGCGCTTTCGCGCACCATCAGCACCAGCCGCCGCTTTCC
 TTCAAACACATCCGCCGCACGCGTCAGCAGATTGTGCGCGAAGCCGTGCGCGACAGAG
 GCAAGCGTCCGCATCGAACAGGGGGCGACAGCATCCCATCCGTTTTAAACGTACCGCTG
 GCAATGCACGCCCGATATTGCCGATCGGATGCACGAAGTCCGCCAAGGCATATACCTCG
 20 TCTCTCGCATAAGCCGTTTCCGAAGCGCGGCCATCTCCGCACCTTCGATACCACAAGG
 TCGGTTTCGACATCTTGC CGCGCAAAAGTTCCAAAGCCTTCACGCCGTATTGGAAACCG
 CTCGCCCGCTGATGCGGATTATCAAACGCCGTACCATCATCCGCCCTTCCCATAAAACC
 GCCTGCAACGGCAAACCGCTATTATAGTGAAAAAACAGAAATCCGATAAACCGCGGATAC
 AAATTGTGCGCAACACCCAATATCCGATAAAATACCCGATTTAACATCTATCTGAATAG
 25 GCACGGGAGGGCGGTATGGCAAAAGTAAAAGGCGGATTGGGGCGCGGCTTGGATTTCGCTG
 CTCGCCAACGGCGCGGACAACAGCAGCGGCGACCGATTGACCACGGTTGCGGTTAAAGAT
 ATCCGGCCCGGCCGCTATCAGGCGCGTGTTCAAATCGATGACGAAGCCTTGACGGAAC TG
 GCAGATTGATTAAGGCGCAAGGCGTGATACAGCCCGTCATCGTGCGCAACACGGACTG
 TCCCGATACGAACTGATTGCAAGGCAACGCCGTGGCGCGCGCACAGATTGCCGGCCTG
 30 ACCGAAATCCCCGCCGTTATCAAACCATCAGCGACGAAACCGCATTGGCAATGGGTTTG
 ATCGAAAACCTCCAGCGCGAAAACCTCAACCCCATCGAAGAAGCACAAGGCTTGAAACGC
 CTTGCCGACGAGTTCCGGGCTGACCCACGAAACCATCGCCCAAGCCGTCCGTTAAAGCCGA
 AGCGCGATTTCCAAACAGCCTGCGCCTTTTAAGCCTGCCCGAACCCGTGACGAAATGCTT
 TACCAACGCCGCTCGAAATGGGGCACGCCGCGCATTGCTGACCCTGCCCGTCGTCGAA
 35 CAGCTCGAATTGGCGCAAAAGGCCGTCAAAAACGGCTGGTCCGTGCGCGAAGTCGAACGC
 CGCAGCCAGGCCGCCCTTCAAAAACAAACGTCCCGAGCCCAAAAAGACTGCCGCCGCCGAC
 ATCGGCCGCCCTGAATGATTTGCTGACTGAAAACTGGGTGTCAACGCTGAAGTCAAACCC
 GCCAACCACAAAAAAGGCAGGATTGTCTGTATTTTCGATACGCCCTGAAACGTTCCGGCCAC
 CTGCTGGAGCAGTTGGGCATAGATTACCGGCCTTAATTTTTCGGGATATACCGTCTGAAA
 40 TATAGAGAAATAGCTTTCCAGATTTTAAGTGGGAAATATAATTCTATTGACATTTTCTGC
 TTCACGTAAGAATCGTTTTCTGTTTTCAATTTTAAATTTTCGAAGAAATTATGAACACAC
 GCATCATCGTTTCGGCTGCGTTGCTTGGCATTAGCAGTTGCGGCTCAATCAATAA
 TGTAACCGTTTTCCGACTAGAACTTCAGGAACGTGCCGCGTTTGCCTTGGGCGTCAGCCC
 AAATGCCGTAAAAATCAGCAACCGCAACAATGAAGGCATACGCATCAACTTTACCGCAAC
 45 TGTGGGTAAGCGCGTGAGCCAATGCTATGTTACCAAGTGAATCAGCACAATCGGCGTTAC
 CACTTCCGATGCAATTTGTTTGGGAGGCGGAACGCACAAAGGCAAAAGTCAATGCAATGC
 TTTGCTTAAAGCGGCAGGCAATTGCTAATCCTTTATTTCGAAAAGGTCGTCTGAAAATAT
 TTTACAGACGACCTTTTATTTATTGAGCAAATTCGCCAACTGCCGACAATCCGACCGATA
 AACTGCTACAATTTTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 282>:

GNMCL71F gnm_282

CCGAAGTTGGATCGCTCTAGAGGATCCCCTGCCGATGTAGCGCGCTCCTGGTACGGGCAT

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AATGCCCTGGGCTTCTTCTGACTGCCGGCTTCTTGGGTATGATGTACTATTTTCGTACCC
AAACAAGCAGCCCCCGCTTTACTCCTACCGCCTGTCCGTGCTTCACTTCTGGGCGTTG
ATTTTACCTATATGTGGGCGGGTCCGCACCATCTTCACTACACTGCGCTGCCTGACTGG
ACGCAATCTTTGGGTATGGTTCTGTCTTTGATTCTGTTCGCACCCTCTTGGGCGGTATG
5 ATTAACGGCATCATGACCTTGTCCGGCGCGTGGGACAACTGCGTACAGACCCGATTCTT
AAAATCCCGGATGGAACCCCTGGTCTTCTACGGAATGTCTACCTTTGAAGGCCGATGAT
GTCGATTAAACGGTCAATGCATTGAGCCACTATACGGACTGGACCGTCGCGCACGTTCA
TGCGGGTGCGTTGGGCTGGGTAGGCTTTGTAACCATCGGTTCCGTCTATTACATGATTCC
CGTCTGTTCCGGCAAAGAACAGATGCACAGCACCAAGC

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 283>:

gnm_283

TTGAACAGGTTAcGAATTTGTTGTTGAATTTGTCCACGCGGCCGGTGGTATCAACGATTT
TTTGGGTGCCGTTATAGAACGGGTGGCACAGGGAGCAAACCTCGATATTGAAGTTTCTT
15 TTTCCATCGCGGATTTGGTTGCGAATTTGTTGCCGCAAGAGCAGGTAACTTGACTTCGT
GGTAGTTCGGGTGAATACCTTGTTCATTTGATTTCTTTCAAAAAAGCGGGCATAGGGG
ATGTACCTATGTACAGACAAGTCCGACATTCTCGCTATTTTCTGTTGTTACGTCAAGAG
TATATTGATATAAATGTATAGTGGATTAACAAAAACAGTACAGCGTTGCCCTGCCTTGC
CGTACTATCTGTACTGTCTGCGGCTTCGTTGCCTTGTCTAATTTTGTAAATCCACTAT
20 AAAAAGTTCTTTGAGGGAGGTTTGTATGGGATCAAAATCTTTTCTGCTGCTGCGTTT
TGCCGGTTCCGGGTGCGCGCATATGCGCGGCATCGGCATCGTCGCGCAGACGGGT
GCGCGGTTTTTTGGCGCGGCGGGTTTCTCCGCATATCGGACGCGGGGTCAATATCGAACG
CGGGGCGTATGTGTTTCCGGATACGGTTTTTGGGCGACGGCTCGGGCATCGGGGCAAACG
TGAAATCTGCCGTGGGCTGGTGGTGGGCAAAAATGTATGATGGAGCCGGAATGTCTGTT
25 TTATTCAAATAACCACAAGTTTGACCGTTCAAAAAACGCTTTGAGGGGTACACGGAAATC
CGTCCGATTACGTTGGAGGACGATGTCTGGCCGGGCGACAGGGTGATTGTAATGGCGGGC
GTAACCGTCGGACGCGGTTCCGTCGTGGGCGCA₉CGCGGTGGTTACAAAAGACATTCCGC
CCTACTCTTTGGCGGCAGGCAATCCGGCAGTGGTGAAAAAGAATCTGCCGGAAGGTTGAA
TGCCGTCTGAACGTGTGCGGGCGGATGATCTGAAAAACAGGAACATCGTTTCTGTTTTT
30 TGCGCTTCAGACGGCATCGCTATTGCGCCACGCGCGtATCGATATCTTGGTAGAGTTTGC
CGAAATCGGGTTCGCCGACGTAGGTTTTGAGGATTCGCCTTTTTTGGCGATAAGGACGG
AAGTCGGATAAACCTGTGTGCCGACGCGCTGTCCGACAGCTTTGTCCGCATCATACATGA
CGGTAAACGGCAAACCGTAGTCTTTGACATATTGGCGGACGCTTTCTATCGGATCGATGG
GCTGGGCGACGGCAAGTACTTGGAAAGTTTTGTTTTATAGTCATTTGCCGTTTAAATGA
35 TTTTGGGCATwTCGCTCACACAACCCGGACAGGAGGAAACCAAAAATTAATCAGGGTTA
CTTTGCCTTGCAAGGTGCGCGTTTGAAACGGTTTTTCCGTGCAGGTCGGCAGGGAGAAGG
CGGGCGCGGTTTTGCTGTGCGGGATGAGGACGATGGCAAGGAGGATGCCGATCAGTGCGA
CGACGGCGCGGTGAGTATTTTTTTCATTTCGACAAAGGCTTCCAATGCGCGGGCAAGGGT
GGCGGGCAGGCTGACGGTGCGTTGTGTGGCGCGTGGACGGGCATCAGGGTGATGTGGGC
40 TTCTGCGGCGGTTTTGCCGTTTGGCAGTGAATCGTCTGGGTGAGCACAATACGGCGCGT
GCCGGGGGTTTTCAGGCGGCATGAAAACGCAATACGTGCGCTTCGACGGCGGGGCGGCT
GTATCGGATGTGATGCGGGCGACAATCAGTATGAGGCCTGCCAACTCGTGACAGCAGTCC
GCGTTCTTCAAAAAACGCCCAGCGCGCTTCTTCAAAAAATTCGAGGTAGCGCGCATTGTT
GACATGGCCGTAGCCGTGAGATGGTAGTTGCGGACGGTCAGCTTCATCAGTTCAGGTTG
45 ATGGGTTGGAAGGCTTCGCGGGCAAGCGGTTCTGTTTCGAGGTGCGTGATGACGGTAGAA
AGCTGGATGTGGAACATTTCGTTGAAAATGTCCGCATCGAGCGCAGGCCACTCGCGTTTCG
TCTTCGCACACAGTCGGCAAGTTCCGCGGGCAAAAATGTCTTCAAAACGGGCTTCGATTTTCG
TCCCATACTTCGTGCGGCGTTTTCGCACGGGCGGACAAGGTAGGAATTGGCGTCGGCTTGG
ATGTCTTCAAGAGTCAGTCGTCGAGGTGGTTGCCGGCAGGGTTTGACGCCAGTTCCAA
50 AAAGGTTCTAAAGGGATGAGGACGAATACGCTGCGGTTGACTTCGTACATGGTTTTTCCT
TTGCTGTGCGCGGGTATGCGCAAAAAGAGATTATAGCCCAATCTGTGGTTTCGGACTGT
CCGTTCCGACAGAAGGGAATGCCGTCCGAACACGATTTTCAGACGGCATGGCTTTAAGG
TTGTGTTCCAGGTTGCGTTTTCCGCTTCCCCTGCTGCTTCTGCCTGTGTTTCGGATACGGA

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ATCTTCTTGAACGGCAGTTTCCGCCGCGCCGGTTTCGGCACTTTCGACCAATTCGTGAT
GTGATGTTATCTTCCGTACCTTCGGCAGGTGTTGCACCGGTCTGCCGCGCACGGACTTT
CATATAGAGGTCGCGCGTGTAGCTGTATTTGTGATGGCGGCTTCGTCCAGACTGTGCGT
CAAATCGAGCAGGCCTTCGCGCGTACTGACGGCGGATACGGCAGTCGTGCCCCAGCGTCC
5 GACAGGGGTGCGGAAGACGATATCTTGGGCGAATAAACGGAGGTAATACCCGTGCCGAG
CGCGTCGCGGACGGTGACGGCCCTAAGACGGGCAACACGAAATAATTGCTGTTTTTCCA
TCCCCACGAGGCAAACGTGTGCCCCAAGGTGTTTTTATTGTGCGGAATGCCGCCGCGCC
GGCTTGCAACCGCGGACGCTTCGAGCAGCAGCGACGACGAGCGGAATCGGCGCGTCCG
10 TTCGTTGCGCGTTTGTATGTCCAAGCGCAAGATATTGCTGCCGAAGCTGACCACGTGCGA
CAGGTTGTTAAAAAATTGGACACGCCGCGCGGACGGGTTTCGGCGCAACTTTGCGGTA
GCCGCGCGCGGACGGGGCGAAAATGTAGCGGTGCGCTTGGTTCGTTGAAATTTGAAAACGGC
GCGGTTGTAGCTTCATAAGGGTCGGCGGGGCGGGTTTCGGCAAATGCAGGGGCGGAAGC
GAACCCGATCAGCAGGAGGAAGGCATAGGCGGTTTTTTTCATGATTTAGCCAGTCTTTG
ATTTTCGTACAGTTCGGACAGCGCGCACGGATTTCGGGAATGCCGGTCAGCCTGACGCTG
15 CCGGTTTTTGCCCGGTCACGCACTTCGAGCAGCAGCGACGACGAGCGGAATCGGCGCGTCCG
ACGCCGCTCAATCAACCGCGCAGGTGTCTTTCAGACGACATTGCTGTCTGAAGCGGGTA
AAAGCGGCGGCGGTGAGGTTTTGACGGTGATGTGCGCCCGGATGTGCAATATTCCGTTT
TTGAGTTCTGTATGCATAGCGTTTGCTCGGAAAACCCATACCGCCCTCGGACGGTATGGT
TTGTTCGGTTATTTGCCGCCGTTTTCGGCTTTCAACTCGGCAATCAGTCCGTCCACGCCTT
20 TCGCTTTGATAATTTGCCCGAATTGGTTGCGGTACACGGTAACCAGGCTCGCGCCTTCGA
TGGCGACGTTGTAGGTACGGTATTTACCGCCGCTTGGTAGGTGGTGAAGTCCATGTTGA
CGGGTTTTTGCCCGGTCACGCCGACTTCGGCGCGGACGATGATTTCTTTGCCGCTTTAT
TGACGATGGGATTGTCTTTGACGTTGACGTTGGCGTTTTTTAATTTAGCATCGTGCCGG
AATAGGTGCGGATCAGCAGGGTTTGAATTTCTTTGGCCAACGCTTGTTCGCGCTCGG
25 ACGCGGTGCGCCAAGGGTTGCCGACCGCAATGCGGTACATGTTGAAATCGAAATAGG
GAATCGCATAGGCTTCGGCTTTTGGCGAGCGGTGTGGCATCGCCGTTTTTTAAGATGC
TCAATACTTGAGTGGCGTTTTGACGGATTTGGCTTACCGCGTCGGCAGGGGCGGCAATG
CCTAGCCGATGCTCAAAATACCGATGCCAATGCGCTGATGAGGGAGGATTTTTTCATGA
TTAAGTTTCCGCTAGTTTGAATATGATGGCATACGTTTATTTCGGCGGCTTTTTCCGCATTGC
30 CGCCGTCGGCATTTTTTCTCGGCAAACTCGTCATGAATTTGCCGATAAGGTTTTCCAGAA
CCATTGCAGAACTGGTTACGGAGATGGTGTGCGCGGCAGCAAGGTTTTCCGTGTGCGCGC
CCTGCTGCAGCCGATGTACTGCTCGCCAAAAGTCCCGAAGTCAGGATTTGCGCGGAAA
CGTCGCTGCTGAACGTACTTGCCGTCCAAATCGAGGCGCACCCTCGCCTGATAGGATT
TCGGGTCAAGTCCGATAGCGCCGACGCGCCCGACCAATACGCCTGCGGATTTGACGGGGG
35 CATTGACCTTCAAACCGCCGATGTGCGCGAAATCGGCATAAACGGCGTAAGTTTTGTCCG
AACCGCCGACCGCCGACCGCCGCAACGCGGAAAGCGAGAAAGGCAACCGCCGCGCGC
CAATCAGGACGAACAGTCCGACCCAAAATTCGAATATGTTCTTTTTCATTAAAGTTCCCTT
GAATATCCGATGTTCCGCGTTTCGTCTTCAGACGGCCTGTCAATCTGTAAACATCCACGC
GGTCAATATAAATCGACCGCCAAAATCGTCAGGGCGGACGAAACACCGTGCAGCGTGT
40 GGCGCGCAAAATGCCTTCCGAAGTCGGGACGCAATGGAAGCCCTGATGCACGGCAATCAG
CGTTACCGCCACGCCGAACGCGGCGGATTTGATCAGACCGTTGATTACATCGTAATGTAT
CGTGATGTTGTTCTGCATTTGCGACAGAAAAATACCGCTGTCCAAGCCCAGCCAGGTTAC
ACCAACCAATACGACCGCAAAATGCCCGCCACGTTGAAAATCGAAGCCAAAAGCGGCAT
GGAAAACACGCGCCGCCCCAAAAGCGCGGCGCAACCACGCGGGGACAGGGTTTACCGCCAT
45 CACATTATCGCTTCGAGCTGTTGCGTCTTTTCATCAGACCGATTTCGCTGGTCATCGC
ACCGCCCGCGCTGCTGGCAAAACAAAATCGTGCCAATACCGGACCCAGCTCGCGCAATAG
CGAAGCCGCGACCATATAGCCAAAATATCGGCGGATTTGAATTTGACAACCTGCGTATA
GCCCCTGTAAACCCAAGACCATGCCGACAAACAGCCCCGAAACGGCAACAATCAACACCGA
CAGCACACCGCGGAAATACACTTGGCGCACGCTCAGGCGCGGACGGACGAAAGCCGTACC
50 GGACTTCGCCAGAATGTTAGCAGAAACAGCGTGATACTGCCGAGGGATTGAATAAGGCC
GAGGGTTTTGCCCCGACGGAACGGATAAAGTTTCAATAATTTCTATGTGTAAGTTCAAC
GGTTTCAGACGGCATCAACTCATTTATCCCAACAGGTCCTGCTGCAACGACGTTTGCGCC
GGATAACGGTATGCTACGGGGCGCTGTGCCAGCCCGCCGACAACTGGCGCACCCAAAGGC
GAATCCAGTTCGCGCATTTCTGCGGCGAGCCGGAGAACATAATTTGCGCGTGCGCCAAG
55 AAAATCACCTGATCGACGATTTCCAAAGATTTTCAATGTGCTGCGTTACCATAATACTG
GTCGAACGCAAGCCTTGTGACGCGGCTGATCAAGTGGGCAATCACGCCAAGGAAATC
GGATCGAGGCCGGTAAACGGCTCGTCGTACAACATAATTTAGGGTCGAGCGCAATCGTG

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CGGGCAAGCGCGACGCGGCGGACATCCCGCCGGACAACCTCGGACGGCATCAGGTTTTCC
 ACACCGCGCAGACCGACCGGTTCAATTTCAACAAAACCAAATCCCGAATCACCGCTTCC
 GGCAGGCGCGTCAGTTTCGCGCATCGGAAAAGCGATATTGTGAATACCGACAAATCAGTA
 AACAGCGCGCGCTGTTGGAACAATACGCCCATACGGCGCGGTTTCATACAACTCGTCA
 5 GCCGAAAAGCCCGCCAAATCCCCTCCTTCAATCAAAACCTGCCCGGACTGCGGACGAATC
 TGCTCTGTAATCAGTCGCATCAGCGTGGTTTTGCCGCTGCCCGAACC GCCCATTACGGCA
 GCAAAATTGCCTTGCGGAATGCTGAAATTGATGTTCTTCAGAATCGGGCGGTCGCCATAC
 GCGAAGGCGACGTCCTTCATTTGATAAAGGGGGATGGGCTCATGTACGGACGGACGGTA
 GGTTTGACGGCGTGTATTTAAGGCTTATCGGGAAGACGGGCAATTTTCAGACGGCATAAC
 10 GGACGGTAATGTTGTGAAAATCCCGTTGTCGGCGCGGATTGTTTGCTGTGGCGAAAAA
 TGTTATCTTTCAAATGATAACCTTTATCAGAAAACATGGAAGAAAGCAGAACATTTGAAC
 AGCAGCCGGTTCTGTCATCTAGTCAAAAGCGGCGGCGGAGCTATGTGGAGGGCAGCTAC
 CGTTTCGATACTTTGTCCAACGGCATTTCATCCACGGCGGCACAGTAACGGCACGGTGT
 GATTTTGCAGCAGCCGCTCGCCGAACCTTATGTGTCGTTCTGCTCTTGCTGGAAGGC
 15 AGTTTGGACTTCGGCATCAACCGCTGCCGCTTCCAAATCGATGCGGACGGCGGCAAGATT
 GTCCATAATTGCTGTGCGGGGAAGAGTCTGTTTCAGCCGCTATCTTTACCGAGGCGGCAAA
 ACGGTCAAAATGACCATTAAGGTATGGAACAATGGCTGCTGCGTCCGGAATACGCGCGT
 TTCGACCCCTGCTTTACCGCGAACCGGTCAGGATATGGGATTTGCCCGGAACCTGCGC
 GGCTTGGCGGCGATCTGCTGAAGCGTCCCAAAGGGGCATTTGGGCGAAACATTGCGC
 20 CGCGAGGCGGACGTGTGCGGCTGCTGTCGGACTTGTTGGGACACGGTTTCAGACGGCATC
 GGGCGGCGGCGGGGCAACGGCGGAAGCAGACGCTATGCCGCTGAAGACTTCAGCCGC
 ACCATAAATGCCGCTTTGCGACGGCGCACACCAAGTCAACCGGCTGACAGACGCGCTG
 AACATCAGTGAAAGGACGCTGCAACGCCGTATGCGCGACCATTTCCGGCATTACGGCAAGC
 GAATGGCTGCACCACAAACAAATGCAGCACGCGCTCTATCTGTTGCAAAACGGGGAAAA
 25 AGCATAGGCGAAACCGCATATTTATGCGGCTACCGCCACGTTTCCAGCTTTACTCAGGCA
 TTCAGGCAATATTTCCGGCAGCACGCTGCGGAAACCAAAAAGAAAACCGGTAAGCCGCA
 TTTGATTTCAAAACCGAAATCCGCGTGATAGTGGATTAACAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 284>:

30 **gnm_284**

CTCGCACGTATGGTTACCTCAGGCGAGGCGGACTTGCGGATTGTTACGGAACGGATAGAC
 GACCATCCCGAAGTGGGAAAACCTCCCTGCTATGACTGGACTCATGCGGTTATCGTACCG
 AACGACCACCCCTTGCTCGAATGAGAAACCCCTCCGTTATTGAAGATTTGGCGAGGTTT
 CCGCTGATTACTTATGAATTTGCATTCAATGCGGGCAGCAGCATCGCGCGGGCATTTC
 35 AAAGCCCGTTTGAACAACCCGATGTCGATTGGCTGCGGCAGATACGGACGTATTGAAG
 ACTTATGTGCGCTTGGGTTTGGGCGTGGGACTGATGGCGAAAATGGCGTACAACCCGGAT
 ACGGACGGCGATTGTCAGCTTGTGGATGCGGCACACCTGTTTCAGCCGTCGCGACGTGG
 ATTGCTTTGCGCAGCGATACTTATTTGCGCGGATATGCCTACGACTTTATCCAAGCGTTC
 GCGCCGACCTGACACGCGAGAAGGTGGATAGGATTCTGTACACGCCATCAGCGAGGAT
 40 TTTTCGATTTAGGCGGCTGCCGTTTTCAGACGGCACTTTGCGGCAGATACAACAAACAG
 GACAGATGTTTTCTGCTGCCCCGTGTTTATTGAGAATGCTGTCTGAAATGTTTCGTACGGG
 TTAATCAAATGGCGTGCGAGCAGCCGGACACCATTTTTTTCAACACCTGCAGATTGAGGA
 TTTTGATGTGCTTATGCTCGACGGAATCAATCCTTCTGATGAAATTTAGATAATGTGC
 GGCTGACGGTTTCAAGTTTCAGCCCGAGATAACTGCCGATTCTTCGCGGGACATTCTTA
 45 AGATGAAGTCGTTGGCAGCAAAACCTCGGGAATAAAGGCGTTGGGAAAGGTTTCAGCAGGA
 AGGCGGCAATCCGCTCTTCGGCGCGCATATTGCCAACAGCAGCATAACACCTTGGTCGC
 GCACGATTTACGGCTCATCATGCGGAAGAAGTGCCTACGCAGGCTGGGGATGTTTTGCC
 CCAGTTCTTCGATGTGGGTAAACGGCAGTTCCGCACACTTCGCTGTCTTCCAAGGCGACCG
 CGTCGCAACTGTGCACATGGGAACAGATGCCGTCCATGCCGATGAGTTCCGCCGACATAA
 50 AGAAACCCGTTACCTGATCGCGGCGCTCTGACTGGCGACGGTTGTTTTGAAGAAGCCCG
 AACGGATGGCAAAGAGCGAGGTAAAGGCTTCGCCGACACAGAACAGGTATTCGCCCTTTT
 TCAGGCGGCGGCTTTGACGGATGACGGCATCGAGTTGGCTGAGCTCGTTGGGACGAGCC
 CGACAGGCAGGACAGATTCCCGCAAAGAACAGGAAGAACACAGCGTTTTTCATCTGATGTG

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5 TAGTATTATGCGAAGCCATACCGTACCTTTTTGTGCGCTTTGCCCCATCATGATTATAGT
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15 AGAAATGGAAGTCTGCTCCACATCTGAACGGACGGCACCAGCTTGCCCAACTGCACTT
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ACGCTGGTGCCGAAAGAATTGGCAACATCGTTGCCGCCGATGTTGAACGCCATAAACACG

CCGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 285>:

gum_285

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   ACGGTGCAAACGTGCTCTGCAATTTCAACAGTTTACCACATCCAAACGGGTGTAGCGTT
10  CGCCGCCGTAACCGACAACACACCGTGATCATGCTGCCATTGCGCAAAACCATAGGGGC
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20  AATCACTTTGACCGCCACGCTCTTCATCCCTTCGGGCAGTCCCGTGCCGCGATACACGTC
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5 TTTAAGTTATTCAATAATAACAATAACCTGGATGCCAAAACGATTCTAGCTTCAGGTAA
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5 GCACGATCATTTTCGCAAACCTGCTTCAAAAAGTTCAAATCATTATCGAAGAACAGGCGCAA
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-711-

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 286>:

gnm_286

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 CCGCGCCGGAAGGCATATTTTCAAAAGTGGCGACGACGGCAATCAGGTAAATCGGCAGTT
 GCAGTTTGACGGCGGCGCAGAAGGTGCTGATGACGGTTGCCGCTCCGCACATATCAAAT
 TCATTCGTCCATTTTACAGCCGGGCTTGAGGGAGATGCCCGCGGTGTCGAAGGTAATGC
 CTTTGCCGACCAATACCACAGGCGCGGCTTCTTTGTGCGGTGCACCGAAATAGCTCAGTT
 50 CGACCAATAGGGGGCTTCCGCGCTGCCTTTGGCGACCGACCAAAACGAACCCATGTTTT
 CTTTGATGTAGTCTTTTTCGATGATTTTGGCGTGCGCGCCAGTTTTTCGGCTTCGGCTT
 TGGCGGTGCGCGCTAAAAATTCGGGCGTGCAATTCGTTGGGCGCGGCGTTGCCAAGTCGC
 GGCAGAGGCTTTGTCCGTAAACTTGCGCTTCGGCGACGCGCAAGGCTTCTTTGACGGCGG

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CTTCTGCGCGGTATGGAACACGGCAGTTTCAAATTTGGCGGGCTTGGCTTCTTTTTTGT
 AGCGGTGCAACGGTAGGCGGCATTGCCGAACGCAATCGCAAACGCTTCGGCAACGGCTG
 CAGCCTGCGCTTCTTCAAAGACGTGAACGTCCACATTGACCGTTTCTGATTTTGGCCCC
 ATTTGGCGGGCTTCGGCGGGCGGCTTGTTCATGCGGCGGGCCGGTGTCTTTCAGACAGC
 5 ATACGGCAACAGCCTGCAAACCGTTGCCTGTGCGGATTTTTGTGTGCGCAAAATTTTGAC
 CTTCTTCAAGCGAAGACAAAAGGGCAAGGACGGTCGGGTGCTCAGTTGCGATGCTTCGG
 TGCAGACAAATAACTGTGCGCCTGCCTGTCTTCTGCAAGATTTTCGGTTTTTGTGCTAA
 ATTCCACGTTTATTCTCTGATTGAGACGGTTGTGCGTAGTTTTTCGGACGGCCTTTCGCT
 CAAAAGACCGTCTGAAGACGGCTGGCAGCATTGTACCCCATTTGAAGCACCGTCTGAAAC
 10 CTTGCGCGGACAATCCGCCTGCGCCGAACCGCTTACCGCCCCCTGACCGCGATTCTATG
 ATTTATCAAAGAAACCTCATCAAAGAACTCTCTTTACCGCCGTGCGCATTTTCGTGCTC
 CTCTTGGCGGTATTGGTCTCCACGAGGCAATCAACCTGCTCGGCCGTGCCGCCGACGGG
 CGTGTGCGCATCGATGCCGTGTTGGCATTGGTTCGGCTTCTGGGTATCGGTATGACGCCG
 CTTTTGTGTTGACCGCATTTATCAGTACGTTGACCGTGTGACCGCTACTGGCGC
 15 GACAGCGAAATGTGCGTCTGGCTATCCTGCGGATTGGCATTGAAACAATGGATACGCCCC
 GTGATGCAGTTTGCCGTGCCGTTTGCCGTTTTGGTTGCCGTATGCAGCTTTGGGTGATA
 CCGTGGGCAGAGCTACGCAGCCGCAATACGCTGAAATCCTGAAGCAGAAGCAGGAATTG
 TCTTTGGTGGAGGCAGGCGAGTTCAACAGTTTGGGCAAGCGCAACGGCAGGGTTTTATTTT
 GTCGAAACCTTCGATACCGAATCCGGCATCATGAAAACTGTCTCCTGCGCGAACAGGAC
 20 AAAACGGCGGCGACAACATCATCTTCGCCAAGAAGGTAACCTTCGCTGAACGACAAC
 AAACGCGACGCTCGAATTGCGCCACGGCTACCGTTACAGCGGCACGCCGGACGCGCCGAC
 TACAATCAGGTTTTCTTCCAAAACTCAACCTGATTATCAGCACCACGCCAACTCATC
 GACCCCGTTTCCACCGCCGTACCATTCGACCGCCCAACTGATTGGCAGCAGCAACCCG
 CAACATCAGGCGGAATTGATGTGGCGCATCTCGCTGACCGTCAGCGTCTCTACTCTGC
 25 CTGCTTGGCGTGCCGTTTTCTATTTCAACCCGCGCAGCGGACATACCTACAATATCTTG
 ATTGCCATCGGTTTTGTTTTTAATTTACAAAACGGGCTGACCCGTCTTTTTGAAGCCGTG
 GAAGACGGCAAAATCCATTTTTGGCTCGGACTGCTGCCTATGCACATTATCATGTTTGCC
 GTTGCACTCATCCTGTTGCGCGTCCGCAGTATGCCAGCCAGCCCTTCTGGCAGGCGGTT
 GGCAAAAGTCTGACATTGAAAGGCGGAAAATGAACCTGATTTACGTTACATCATCCGTC
 30 AAATGGCGGTTATGGCGGTTTACGCGCTCCTTGCTTCTCTCGCTTTGTACAGCTTTTTTG
 AAATCCTGTACGAAACCGGCAACCTCGGCAAGGCAGTTACGGCATATGGGAAATGCTGG
 GCTACACCGCCCTCAAATGCCCGCCGCGCTACGAACTGATTCCCCCTCGCCGTCCTTA
 TCGGCGGACTGGTCTCCCTCAGCCAGCTTGCCGCCGGCAGCGAACTGACCGTCATCAAAG
 CCAGCGGCATGAGCACCAAAAGCTGCTGTTGATTCTGTGCGAGTTCGGTTTTATTTTTG
 35 CTATTGCCACCGTCGCGCTCGGCGAATGGGTTGCGCCACACTGAGCCAAAAGCCGAAA
 ACATCAAAGCCGCGCCCATCAACGGCAAAATCAGCACGGCAATACCGGCCTTTGGCTGA
 AAGAAAAAACAGCATTATCAATGTGCGCGAAATGTTGCCCGACCATACGCTTTTGGGCA
 TCAAAATTTGGGCGCGCAACGATAAAAACGAATTGGCAGAGGCAGTGGAAGCCGATTCCG
 CCGTTTTGAACAGCGACGGCAGTTGGCAGTTGAAAACATCCGCCGAGCAGCTTGGCG
 40 AAGACAAAGTCGAGGTCTCTATTGCGGCTGAAGAAAACCTGGCCGATTTCGCTCAAACGCA
 ACCTGATGGACGTATTGCTCGTCAAACCCGACCAATGTCCGTGCGCGAAGTACCACT
 ACATCCGCCACTCCAAAACAACAGCCAAAACACCCGAATCTACGCCATCGCATGGTGGC
 GCAAAATGGTTTTACCCCGCCGAGCCTGGGTGATGGCGCTCGTCGCCTTTGCCTTTACCC
 CGCAAAACACCCGCCACGGCAATATGGGCTTAAAACCTTTCGGCGGCATCTGTCTCGGAT
 45 TGCTGTTCCACCTTGCCGGACGGCTCTTCGGGTTTACCAGCCAACCTTACGGCATCCCGC
 CTTCTCTCGCGGCGCACTACCTACCATAGCCTTCGCCTTGCTCGCCGTTTGGCTGATAC
 GCAACAGGAAAAACGTTGAACCAATGCCGTCTGAACCTCTTTCAGACGGCATTGTTTT
 TCATTGACACATTCCCACAGACAGATAGCCGTTCCCTATTACATTACCTGTCATAACAGT
 TCCATTTTTGTTAAACCTAGTCTATGATAGCGGTACAAATATTGTTTACAATATTTAACG
 50 CAAATCATTGTCAACCCGACAAAAGAAAAACAGAAAAAGGAACAAAGAGATGTTAGAAGC
 CTATCGTAAAGCCGCGCCGAGCGCGCCGCTCGGCATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 287>:

-713-

gnm_287

CGGCAGTGGACAAGTGACTGTTTCAGTCCTATTTCCAGAACGATGGCTCAGGTGCTTACCG
TATCGATGAGATTTCATTTTCGATAACGGCAAAGTACTGGATGTTGCCACTGTCAAAGAACT
GGTACAGCAATCCACCGACGGTTCGGACAGATTGTATGCCTACCAATCCGGAATACCTT
5 AAATGGCGGATTGGGCGATGACTATCTGTACGGTGCCGACGGGGATGACCTGCTGAATGG
TGATGCAGGCAACGACAGTATCTACAGTGGCAATGGCAATGATACGCTCGATGGAGGAGA
AGGCAACGACGCCCTGTACGGCTATAATGGTAACGATGCACTGAATGGTGGCGAAGGCAA
TGATCATTTGAACGGCGAAGACGGTAACGACACTCTAATCGGCGGTGCAGGCAATGATTA
CTTGAGGGGCGGCAGCGTTCGGATACTTATGTCTTCGGCAAAGGCTTCGGTCAGGATGC
10 GGTCTATAATTACGACTACGCTACCGGACGCAAAGACATCATCCGCTTTACCGACGGTAT
TACAGCCGATATGCTGACTTTTACCCGAGAGGGCAACCATCTTCTTATCAAGGCAAAAGA
CGGCAGTGGACAAGTGACTGTTTCAGTCCTATTTCCAGAACGATGGCTCAGGTGCTTACCG
TATCGATGAGATTTCATTTTCGATAACGGCAAAGTACTGGATGTTGCCACTGTCAAAGAACT
GGTACAGCAATCCACCGACGGTTCGGACAGATTGTATGCCTACCAATCCGGAATACCTT
15 AAATGGCGGATTGGGCGATGACTATCTGTACGGTGCCGACGGGGATGACCTGCTGAATGG
TGATGCAGGCAACGACAGTATCTACAGTGGCAATGGCAATGATACGCTCGATGGAGGAGA
AGGCAACGACGCCCTGTACGGCTATAATGGTAACGATGCACTGAATGGTGGCGAAGGCAA
TGATCATTTGAACGGCGAAGACGGTAACGACACTCTGATCGGCGGTGCAGGCAATGATTA
CTTGAGGGGCGGCAGCGTTCGGATACTTATGTCTTCGGCGAAGGCTTCGGTCAGGATAC
20 GGTCTATAATTACCATGTGGATAAAAACTCTGACACTATGCACTTTAAAGGATTTAAAGC
AGCAGATGTTTCATTTTATCCGTTCCGGAAGTGATTTGGTGCTTAGCGCTTCTGAACAAGA
CAACGTACGTATTTCCGGATTTTCTATGGTGAAAACCATCGTGTAGATACATTTGTCTT
TGATGATGCAGCTATCAGTAATCCAGATTTTGCCAAGTATATTAATGCTGGCAATAATTT
GGTACAGTCTATGTCTGTGTTCCGTTCTAATACTGCTGCGACAGGAGGAAATGTGGATGC
25 CAATATACAATCCGTACAGCAGCCGTTATTGGTAACGCCATCTGCATAAGGAGCCTAATT
ACATTTCATGGCTTAACTGAAAAACAGCAATCAAGTTTATTTTGATTGCTGTTTTCTTA
ATATTGGGATAAGGGTCGTATTTTAACTAACCTTAATCGGTGCACTTCTAGCAATATAGT
GGATTACAAAAACAGTACAGCGTTGCCTCGCCTTACCGTACTATCTGTACTGTCTGCG
GCTTCGTGCGCTTGTCTGATTTTTGTTAATCCACTATAATTTTCAGACGGCCTTTTGCC
30 TTTTCAAATTCAAACCAATCAAACGGTTTTATTGCTTCATCGCGTTGGTCAAGGCTTTGA
TGTTGTGGCGGTACATTCCGATGTAGGTGTCTGCGGGCGCGTTGCCGAGTGCCTCGGAAT
ACAGTTTGCCGCTGACGTTGACACCGGTTTCTTTGGCGATACGGTCAACCATACGGGTGT
CCTTGATGTTTTCGGTAAAGACGGCTTTGATGCCTTCGCGTTTGATTGTGCGGATGATGG
CGGCGACTTGTTTGCGCGAAGGCTCGGCTTCGCTGCTCAGCCTTGCGGGGCGATGAATT
35 CGATATGGTAACGTTTGCCCATATAGGAAAAGGCATCGTGCCCGGTGAGGACTTTGCGTT
TGGCAGCAGGGACGGCATTAAATGCGGCTTGTGCGTCTGCTGTGAGTTTTTTGAGCTGCA
TTTGGTAGTTGCCCAAGCGTTGTTGATAATAAATTTGCCTTCGGGATCGGCCTTTATCA
GGGCTTTGGCAACGTTTTTGGCATAGGCGGACATAAGGACGGGGTCGTTCCAGACGTGCG
GGTCATATTCGCCGTGGTCATGGTGGTGTCTTCGTGGTCATGATCGTGGTCGTGATGGT
40 GTCCGCCTTCTTCTTCGGCTTTGAGGGGTGGATGCCTTTGGTCGCTTCGGTATAGGATA
CTTTGCTTTGTTTGACGGCGCGTTGCACATCGGCAGCTTCAAGTCCTAAGCCGTTGAGCA
GGACGAGTTTTGCACTGCGGATTTTTTAAATGTGCGCCACTGGTCATATGATAGGCGTGCG
TATCTTGGTTGGCTCCGACCAAACTTTGTATGGATACGCGCTCTCCGCCGATTTGTTTGG
CTACGTCGCCTAAAATGCTGAAGCTGGTTACAACCGGCAGGGGGGCGGCAGTTGCGGAGG
45 CGGTCAGCAATGCGGCAATAAGGGTGAGTTTGAGGTGTTTCATAACTGTTCTCCTGTGAT
ATAACGTAACATCTGTTATGGTAAAAACAAGCCGCTGTTTGTTCAGCGGCTTGCGGGGT
CAGGTGGTGTGGCGGTGGTGGCTTTTGAAGCATTGGCCAGAATGCCGCCTTCTTTGCCG
AGTATGACGGCAAAGACATATCGGACGCTGCACCAGCGGATGAT

50 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 288>:

GNMCS11F gnm_288

CCGGCACCCACGCCTTACGACACCGCCACCTCGAAGTGATGTTTCGACCAATGTTTCAGCC

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AGATTGACTATTTGCGCCGCAAAGGGACGGGCGCCGGCTCCGGTTCGTGCGTCAAAGTCG
CCCACCTGCTCGAACGGCTCCGGCAGACCGTAGACCGTCTGAAGCTGCTCACCACATCC
AAACCGGCGCCGGCAACAGCAACCGCCTGACCATCGCGCTGATGAACTCCCTCATCTACG
CGGCGGTGGAACAATACAGCACCCGCCACCTGCGCCGCGCAGCATCCGTATGCTCGCCCG
5 CAGCATTACCGAAAACAAAAGCCACCACGGCGAACACTACATCACCCGCAACCGCAAAGA
ATATTTCAAATGTTCTACTCGGCGGCAGGCGGCGGCATCATCATCGCCCTAATGGCGCT
GCTCAAATCCGCATCGGCTCACTCGGCCTCAGCCCCCTCCTCACTTCTTGTGCGCTGG
GTTCAACTACGGCATCGGCTTTATGATCATCCATATGCTGCACTGCACCGTCGCCACCAA
GCAGCCCGCGATGACTGCCGCCAGCAGGCAATCGGAGTAAAAAATGAACCTTGATTTAAC
10 CGCGCAAAAAGTCCGTCTTCTTGAAGGATATTCTGTGGGGGTATGGGAATAAATA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 289>:

GNMCS48F gnm_289

TGCTGGCAGCAAAGAAATCTGCACGATTGTCAATGGTGTGAAATACTTGTCAAATCTTG
15 TAGATGCCCCCTTGTGAGTTATATAAATAGCCAAAACCTCTTTGGCAACCCGTGATACAT
CCGAAGGGATATACTTCCACGCAGCAGGCATGGCAATATATTTAATAGATATATTAATGC
CGTTTCTGCAACCATCGCGCAATGGGTTCCTAGAATAGACTTGTTGAAGTTCGTATCAA
TTACTTTGCGAAATTGTTTCATCCGTTTGATGGCATTACTTTTTTCATCGTAGTAGTGC
AAGTT

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 290>:

gnm_290

GTCGACTCTAGAGGATCCCCCTGGGATTGAGTTTAGACCAGACTGCTCATTATACTTTATG
CAGGTTTGTAAATATTTGGCAAACCTCATAAATTATGCCTTGTAATCAAGTCATCAAATA
25 AGCATGTAAATAACTACTATAGAAATTAAATTACAAAAATATTATGTATTCTTTTGTGTA
CAAAGGGTACCGAGCTCGAATTCGTAATCATGGTCATAGCTGTTTCCCTGAGTGAAATTGT
TATCCGCTCACAAATCCACACAACATACGAGCCGGAAGCATAAAAGTGTAAGCCTGGGGT
GCCTAATGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCCCGCTTCCAGTCG
GGAAACCTGTCGTGCCAGCTGCATTAATGAATCGGCCAACGCGCGGGGAGAGGCGGTTTG
30 CGTATTGGGCGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 291>:

GNMCS78F gnm_291

CCCGCGCAGGCGGCAATCTATCGGAAATGACTGAAACCTCGAGATTCTAGATTCCCACTT
35 TCGTGGGAATGACGGTTTCAGTTGCGTTCCAACAACACCGCAATCTCGAAATCCGTCATT
CCGCGCAGGCGGAAATCCAGACCTCCGACGCGGCGGGAATCTATCGGAAATGACTGAAAC
CTCGAGATTCTAGATTCCCACTTTCGTGGGAATGACGGTTTCAGTTGCGTTCCAACAACAC
CGCAATCTCGAAATCCGTCATTCCACACAGGCGGGAATCTAGACTCCTGACGCGGCGGG
AATCTATCGGAAATGACTGAAACCCCGAGATTCTAGATTCCCACTTTCGTGGGAATGACG
40 GTTCAGTTGCGTTCCGACAACACCGTAATCTCGAAATCCGTCATTTCGTACAGGCGGGA
ATCCAGACCTCTGACGCGGCGGACTCTATTGGAAATGACTGAAACCGCGAGATTCTAGA
TTCCCGGTTTTGTGGGAATGGCGGCTCACTTGCATTCCGACAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 292>:

-715-

GNMCV37R gnm_292

TCGGCATT TTTTATCCGTTT TGGGGTAACTTGT TGGAAAGCTGCAACTTCATAAATA
CAGGATTACATTTAAGTTT TGGGTAACTTTTAAAAAATGCGTGATGACTTTTGCATT
TTTAAGGCGTTT TGGGGTAATTCGTGAAAAGTTACCCCAAAGTTACCCCATAAATGG
5 CGAAACTCAAGCATACGCCAGCATCCTGCAACACAAAAAGCCTTGAACTGTTGAAGT
TCAAGGCTTTT TGTGTTGCAGGATCTGCTGTCAATAGGGTATGGTGGAGGCGGGGGGT
TCGAAACCCCGTCCGATATTCTCTACAAAGCGTTCTACATACTTAGTTGTGTCTATATG
AGAATCTTATTTCCATCATGCCGACCAACAGGCTTATGGATACCAGTTACCTTAAGTCT
T

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 293>:

GNMCV44F gnm_293

GACGGCCAGTTTCGCGAAAACGACGGCCAGTGCCAAGCTTGCATGCCTGCAGGTCGACTCT
AGAGGATCCCGGCGATGGCTTGTGCGAGTTGGGGCAGGATGGGGGCGTTGCGGTGCGGGT
15 TTTGGCTTAAAAATTGGGTGATGAATTCGGGCACTGGCACGCAGATGCGGCGGATTTGCT
TGGGCAGTGCTTTGATTTGCAACTGGATTTTTTCGCGTATCATGCCGGGCACCAGCCATT
CGTGCGACGCGCGTGCAGGCGGTTGAGGACGGTCAGCGGCACGGTCATGGTCACGCCGT
CTAGCGGATGGTGCGGCTCGAAGCGGTAGGAAAGTTGAATTTGCCGCTGCGGTTTGCC
AGAATTTGGGGAAGTGTCTTCGGTAATGTGTGCGGCGGCGTGTGCATCAGATCG

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 294>:

gnm_294

GCCCCACCAACCTGTGAGTCTCCTTGCTGCTGGTGTGTGGCCGCCCACTCACCCATG
CATCATGACCCGTGGGATCTCAGTAGCCAGCGTGCACTGATTCTGCGCACTTATCAGTGC
25 CTTCGTACACTTTGCCACTTCCACTTCGGCAGTAATCTGCTCGATGCGTTTTTTCGCCG
CATCCCGGCTTCTTGAGTGGTTGCGGCAATGGTAATCGTACCGTCTTCGGCAATATTGA
TTTCCGTACCGGTTTCAGCGTAATCGAACGGATGGTTTCACCGCCCTTACCGATAACTT
CGCGGATTTTGTCTTGGTTGATTTTCATCGTGAACAAGCGTGGCGCGTGTGCGGACAGCT
CTTGCGGGCCCGCAACGGCGGCTTTCATCTGATCCAAGATGTGCAGACGCGCTTCTTTGG
30 CCTGTGCCAAAGCGATTTGCATAATTTCTTTGGTAATGCCTTGATTTTGATGTCCATTT
GCAGCGCGGTAACGCCTTCGGTCTGATCCGCGCACTTTAAAGTCCATATCGCCCAAGTGGT
CTTCGTGCGCCAAAATGTCGGTCAGGACGGCAAAATTTGTTGCCCTTCAGAATCAGACCCA
TCGCGATACCGGCAACGTGTGCTTCAAGGCACGCCGGCAGACAGCAGGCTCAGGCAGC
CGCCGACAGACGGAAGCCATAGAGGAAGAGCCGTTGGATTTCGGTAATTTTCGGAGACCACGC
35 GCATGGTGTAGCTGAAATCTTCAGGTTTCGGCAATACGGCCAACAATGCACGTTTAGCCA
AACGGCCGTGACCGATTTACGGCGTTTCGGTGCGCCATGCGGCCCACTTCGCCGCTAG
AGTACGGCGGAAAGTTGTAGTGCAGCATAAAGCGGTGCGTGTATTCGCCGGACAGCGCGT
CGATGATTTGCTCGTTCGCGGAAGTACCCAAAGTTGCAACGGCCAAAGCTTGGGTTTCGC
CACGGGTAAACAATGCAGAACCGTGCGTGCAGCGGCAATACGCTGGTTTGATGTTTCAGCG
40 GACGGACGGTGCGGGTGTGCGGCGGCTCGATGCGCGGTTGGCCATCCAAAATTTGGCTGC
GGACGACATCGGCTTCAAGTGTTTGAAGTGCCTTTGATTTTCGTTGGCTGCCAAAGTGT
CGGTTTCTTCGGTAATCAAGGCTTCTTTTACCGCACTCCAAGCTTCGTCCAATTTGGCAG
AACGGCGCTGTTTTTGACGGATTTTGAACGCTTCTTTAATGGTTTCGCCGGCAATCCCGC
GGACTTTGGCAACAGTTCCCTCATTGGTTTCAGGTGCTTTCCAATCCCAAAGTTCCGGAT
45 TGACTTCGTGCGCAAAATTCATTGATTGCATTGATGGCAACCTGCATTTGATCGTGGCCGT
AAACCACCGCGCCAGCATCACGCTTCGGGCAGGATTTTGGCTTCGGATTCCACCATCA
ACACGGCTTTTGAAGTACCGGCGACCAAGTCCAATTGCGATTTTCGCCAATTCGGCTT
TAGTCGGATTCAAAACGTACACGCCGTTTACATAACCGACGCGTGCCGCGCCGATCGGGC
CGGCAACGGTACGCCGCTCAACACCAGCGCGGAGATGCACCCAACATTGCAGGAATAT

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5 CAGAATCGATTTTCAGGATCGACGGACACGACCATCGCTACGATTTGGATGTCGTGGTAGA
AACCTTCAGGGAACAGCGGACGAATCGGACGGTCGATCAGACGGCTGGTCAGGATTTCTT
TTTCGCTTTGTTTGCCCTTCGCGTTTGAAGAAACCGCCGGGAATTTTGCCCTGCGGCGTAAG
TGCCTTCCAAATAATCGACGGTCAGGGGGAAGAAGTCTTGACCTTCTTTCACTTCTTTGT
10 TGGTGGTAACGGCAACCAAAACAACGGTGTGCGCCATAGAGACTTTAACGGCAGCGGCGG
CTTGCGGGGCAATTTGCGCCGGTTTCCAAAGTAACGGTCTGATTACCGTATTGGAAGGTCT
TAACGTGTTTGTGGAACATCATTGTTCCCTTTCAAATACCGCACTGCTAAAACACTAATA
ATGCACACTAAAATCCGAATGTGCATAGTTAGGGTTTCAGACCGTGCAGGAGGTTATAAA
CAAGCTTTCAGACGGCATTTCGGACGCTGAAAGCAATTGCGGATTATAAAGCAACCATC
15 CTTAAATCCAGTATTGATACAATAAAAGGCCGTCTGAACCATATTTCTTTCAGACGGC
CTTCAAACCTAAAATCAATCCTGAGTCAGCAAAGTCAATGCTTCCCGATACTTCTCGAC
AGTTTTCTGAATCACATCGGCAGGCACTTTCGGCGCAGGGGCTTTTTTGTTCGAACCGCT
TTGTTCCAGCAGTTCGCGGACGAATTGTTTGTCAAAGACGGCGGATTGGTGCCGACTTT
GTATTGGTCGGCAGGCCAAAAACGGCTCGAATCGGGAGTCAATACCTCATCCATCAGCGT
20 CAGCGTACCGTTTTTCATCCAAACCGAATTCAAATTTGGTATCGCAAATAATAATACCGCG
CGATTTGGCATATTCGCGCGCTTCGGTGTAAGCCGAACCGCCTTGGCGCGCACTTCTTC
CGCCAATTCTTTGCCGATAATGCGTCCGCATTCTTCAAAGCTGATGTTTCATCGTGATC
GCCGACTGCGGCTTTGGTTGAGGGCGTAAAAATCACTTCAGGCAGTTGTTGCGCTTCCTG
CATACCTTCAGGCAGTTGAATACCGCAAACCGAGCCGGTTTTTTGATAATCTTTCCAACC
25 CTTGCTGCGCAATAACACGCAATCGCCTCTACTTTACCGGAGTGAGCTTTTTAGC
CACGACGGCGCTTTCTCTAAAGCTTTGGCTTCGTTTTTCAGGCAAAACATCGTAAACCGT
TTGACCGGTAAAGTGGTTGGGCATAATATGCGCCAGTTTTTTAAACCAAAAATTGGAAAT
CTGCGTCAGAATCTCCCTTTGCTCGGAATCGGGTCGTCCAAATCACATCAAACGCGGA
CAGGCGGTGCGAAGCGACCATCAGCATACGTTTATCGTCGATTTTCATATAAATCGCGCAC
30 TTTTCCAAAATAGATCTTTACCAAACCAATCTCACTCATTTGCCCCCCCCCTGAAAATAT
CTTGAAAATACCGACCCGACACCCGACAGGTTTGAATCACAAACCGATATTCTAGCCGAA
GTGCGCGCAAAACAATACCCATGGCACAAAAAGCCAACCCGTCAACCGTCGGCAAAATTT
TGGCACTATAATACCGACAGCAAGTCTACAATACACTTTTACCAAAGGAAATACCTCAT
GAGAATCCTATTGACAGGCTCGAAAAGCCAACTGGCACGCTGCCTGCGCGACCGTCTTCC
35 GGAAGACTGGGAAACCATTGCGACGGATTCCGCATCCCTAGACATTACCGATGCCGATGC
CGTCTGCAACATGGTCAAAGTTTCCAACCCGACGCCATTGTCAACACGGCTGCCTATAC
TGCCGTCGACAAGGCGGAAGGCGATGCGGCAGCGGCATTGTCGCTCAATGCTTCCGCCGT
TTACAACCTTGCCTTGGCAGCACATCGCGCCCATGCCGATTTCATCCACATCTCAACCGA
CTATGTCTTTGACGGTAAAGGAAAAGACCCTATCAGGAAAGCGACTTTACCAATCCTTC
40 CAATGTATACGGACAATCCAAAACCGCAGGCGAGCTGCTCGCACTGTCTGCCAATCCCGA
CAGCCTTATCCTGCGGACTTCTTGGCTGTTTAGCGAATACGGGGACAACCTTTATCCGCAC
GATGCTGAACCTTGCGCGGGAACGTTCCCGCTGTCCGCGCTCCACAACCAATCGGCTG
CCCGACCTATGCCGGCGACTTGTCCGCCACCATCATCCGCCTGTGTCAGCACTCCAATCC
CGTTCGCGGCATTTACCACTACGCCGGCAGCAATCCGTATCCTGGTACGAATTTGCCCA
45 ACATATTTTCAAAGCGGCATCGCAACAGCAGACATCCTTCCCGTTCCCGAATTGACTGC
CGTTTTAGACAAGGAATATCCGACCGCGCCCCAGGCCCGCATACAGCATTTTGGACTG
CCGCAAAATCGAAAACGACTTCGGCATCAAAACGTCAGACTGGCAAAAAGCCCTTGCACA
GGTCGTTTCCAAGCTGCTCTGATGCCGCCCGCCCTCTGTTTCCGCCGTCAAGCACCGCC
TTGGCGGTTTTCTTATATAGTGATTAACAAAAACAGTACGGCGTTGCCTCGCCTTGCC
50 GTACTATTTGTACTGTCTGCGGCTTCGTGCGCTTGTCTGATTTTGTTAATCCACTATA
AAATCTACCGATTACACAAACACATATCATCTTACACAATCATGCTTCCATCAACAGTA
AAACATGATATGATTGCCAACAATAACATCTCACAATAAATTTCTAATTTTATTGAAA
AAATCAATAAATAAGAATCCTCCCAACCGACAAATAAAATAAAGAAAGGGTTAATATGCA
ACATCGAAGAAGACTAGCAATTTACCAAGCATCCAAACGTGCTTCCCTTACCGGCAGGTC
ATCCGCCCCGCAAAAACGTAAAGAACGTTGATTTGAAAAAATGCCGCTGAAGTCTTGC
TTCAGACGGCATTTTTTTACCCTTCGAGAACTGTTTCAACCTGTCTCATCCAAAAC
AGTGACAGATTTCTCATCTCCCGCCAACAAAACGGGAACCGCTCATTGTATTTTCTT
CCAAAACAGGATTTTCATCCACATCGACCACTTCAGCCCCGAACCCGTATTCTCTGAA
AAGGTTTGAGTTTCGTGCGCATTTTGTGGCACAAGCTGCAATATTCACGAAACATCAAGG
55 TCAATTTTCATCCGCGTTTTCTTATCTGTCAATTTGCACACGCCAAAGCCTTAGACGCAGC
AGAATCATGGTCTATTTGGGAAAAACAATGTTTTCGAGGAAGATGATACTCAAGTCTTG
CCAAAACAGTAAAAATGCCGTCTGAACAGTTCAGACGGCATTTCGAAAACCGTTTTACG

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CTTGAACGTTGATACCCGCCGTACCCTCGGTTGCGCATTGTGCGCCGTCAGAAACGAAG
 CGGCAAGCTCCCCGCAGCAGCCGCAGCAGCTCGCTACGCCCAATTGCGACTGCAAATCGC
 CCATTGTGGTTCGCGCCGGCGGCATGGTTTCCTTGATTTGATGGTCGGTAACGGCATTGC
 AGATGCAGACAAACATTTTGTGCTCCGTGTGTTCTCAAACATATCGTACCGATAGCGGCTT
 5 TTATTATCGTATGCGAATATAAATAAAACGGTTTCGATTGCAAGGTCGGTATACACGGT
 TTGTCTTGGTAATTTTTTATCAAGTTTGCATTTTCGATTGATTTCTTATTAAACCAAAGT
 AGAAGCCTCAGTTTCGGGAATGGTGTTCCTTCACTACACCCTGCAACCATACGTTGGCAA
 CATGGGTATAAATCTGCGTCGTATTCAAATCGGCATGTCCCAACATATCCTGAACCACGC
 GCAAATCCAAGCCGTGCCGCACCAGATGCGTGGCAAAGCGTGGCGCAGGCTGTGCGGGC
 10 TGATGTGCCCGATGCCCTGCTGACTTGCATATTCTTTGACAATCATCCATGCCAACTGAC
 GGGAAATGCCCGTCTTTTCTGACTGACAAACAATGCGTCGCAATTCTGCCTTTTCAGCA
 GAAGTGGGCGTGCCCTCGTATAATAGCGTTCCACCCAATACGCCGACTCCTGCCCCATCG
 GGACCATCCTCTGCTTATCACCTTTCCAGCGCGGTAATACAGCCCTGTCCAAATCCA
 CATTGCCGAAGTTCAGCCCGACCGCTCGCTGACGCGCAAGCCGGTCGCGTACATCAATT
 15 CGAGCAAAGCCTTGTCCCGCAAACCGTGCGGCGTGTGCGTATCCGGGGCGGCAAGCAGTC
 GGGAAATCTGCTGCTCGGTGATCAGGGTCGGAATATTCTTGTGCGATTTTGGGCGGTTTCA
 GCAAACGGGTGGGATTGTCCGTCCTTATGCCTTCACGCTCCATCCATATATACAGGCGTT
 TGCATGCCGATAATGCGCGCGCTTGCAGACTCCGTTGCTCTCCGTCAACATAAACCGCCG
 CCGCCAAATCCGCTTCGTCGCAATCCTTCAGCATTCTGCCCGATTGGGACAGGCGGCGGG
 20 CGATTTTTCCAAATCGCGCCGTAACCGTTTAAAGTATTCTGACTGAGCCGCTGTCCA
 ACCACAGCGTTTCAAGCAGCCTGTCGATCAAACCTTCTTCCATACCGTTCCAAACAAATG
 CCGTCTGAATCTTCTTCAGACGGCATGGTTTACATTATCGGGAAGCGTTTCCAATACTT
 CCTGCGCGTGACCCGCCACTTTGACTTTCCGCCATTATGGGCGATTTCTCCATCCTTAT
 TCAAGACGAACGTACTGCGCTCGATACCTAACGACTCTTCCCGTACAGTTCTTCAATT
 25 TGATGACATCAAACAGGCGGCACACTGTTTCATCCTTGTGCTCAACAGCTCGAACCAGGA
 AACCTTGCTTGGCGCAAAATTTCTGATGCGCCTTTACGCCGTGCGGGGAAATACCGACCA
 CGGTATAACCCAATGCCTCAAATGTTCCAAACGCGCATTGAAATCCAAGCCTTCCGTGCG
 TACAGCCCGAGCTACTGTCTTTCGGATAAAAATACACGACCAAAGGCAGATGTTCTGCCG
 AATGAAATCCGCACCGCTGCTCGAAGGCAGGGTAAATTATATTTACATCCATAGTCC
 30 TACTCCCGATATTCCCATTTATTCAAAACGGCAGCAGACGACCGCCGCAATTGCCAAAC
 CAACCCCGATTCTACCGCCCCAAAGGACAAGGATTCAACCGCCGGAACATCCAAACCGA
 CACACGACGGCATGAAAAATATCCATGTCAAACCACAAATATGTTCCGATTTAAAAACA
 GAATGTTATAAAACCCAATCCCCAAAACACAACAAGACCGCCCGCTACGGGCAGTCTCC
 TGTCAGACGACATACTTTACAGATGGCTGTTTTTCAACAAAATAACGCCAATACTCAAA
 35 AATATGGAATCAAAATGTCCATCCATACTCTGAAACGCCTGCCCTCATCGCTGCTGCTC
 GGTCTCTGCCTTCCCTGCGCTCAGCCACCTTTTGGCGACAACGACATTTTAGGGCAA
 TTTTGTAGAACAGAACATGCTTACCTCCTCCGATCCGATAGAAATATTCGCCGAAAGCAGC
 ATACACCCCAACACCCAAGCCATTACAGGCGGTCTGATTCTCTCCTCACAGTCTGCC
 CTGGTCTGTCACAAACAAAACCGSACAGATACTGTATCAGAAAAACGCCGACAGGATTATG
 40 CCCATCGCTCCATTTCCAACTGATGAGCGCGATGGTCGTTTTGGATGCAAACCTGGAC
 ATGAACGAAACCGTTACCATTACGCCCCGACGAAATCGACCGCATCAAAGGGACCGGCAGC
 CGTCTTGCCATAGGTACGGCACTTACACGCAAAAACTGCTGCACCTGAGCCTGATGAGC
 AGCGAAAACCGCGCCACCCATGCATTGGGCAGAACCTACCCCGCGGCATGGGCGCATTT
 GTCGCCGCCATGAACGCAAAAGCCCAAGCCTCGGTATGTACGGCAGCCGCTTTTACGAA
 45 CCGACCGGACTCAACTTCCAAAACGTTTCTACCGCCAAAGACCTGAGCCTTATGGTCAAC
 GCCGCCGCCAATATCCGCAATCCGCACCAACTCGACTTCCAACACGCTCGGTACAG
 ACCAAAAACGGGCGAGCAGAACTACAAAACTCCAATGCCCTGGTCAGAGAAGGCATGTGG
 AACATCGAATTGCAGAAAACCGGTACATACGCGAAGCAGGCAGGTCTATGGTTGTCAAA
 GCCAACATTCAAAACCAACCGGTACCATCGTATTGCTGAACTCGCCACATCCGCCACA
 50 CGCGTCAACGACGCCCGCAAAATCGAATCGTGATGCTGCAGCAACGCTCCTGACATACA
 AATGCCCGCGGAAAACCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 295>:

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GNMCW06F gnm_295

CGTTTCTTCCAGTGCAGCTATTGATTTAGTTATTAATCGTTCACCTCCGGATATGGCGGA
TGGTTATTGGGCATTAGGTTTGGGGATAGAAGCCGAACGTATCCACAATGAGCAAGCAGT
AAATAATCCGAACGGTAGCGAAAGGGATAATAGAAAGCAGTTAATACTGCTTTAGATAA
5 AGGATTTGATGGATCTTTAAAGAGAAGCATTTTACTTTTACAACTGTGATGATGGA
TGTAACAAAGTTAGGTGTTGAATATACAATAGATGGTTGGCAAAAATTGGAGGTTGGGG
TAATGGGATAATCAATGATTTATATAAAAGTGTTGTAAAAAGAGAGTGGACTGGAATATT
TGAGATCGTTAATAATAACATCAAGCAAGGAAATGAAGCTTAAATGAAATCAATAGC
TGGTTCTGGATATGAAAGCTGCTGGGCAAGGAATTTGGAGATGACTTAAATACACCGTGG
10 AATAATCTCACTCAGGCTGCCGAAATAATCTATAATGACATAGTAGACCATACTAGTCAG
GAATAGAAAAGGTGTCAAAGCCATTAAAGAATTGTCTGAAAAAATGAAAAATGCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 296>:

GNMCW14F gnm_296

CCGATCCGACCACGCCCCCGCGATTTCCTTCAAACGGTTTCCCGCGTTCTTCCCAATTAT
CGTACATTAGGTTCTGCTACGGTTTCCGCCCAATGTGGCAACTTGGCGCCCTGTCCGAA
TGTTGCTGCGCGCTTTGCTGAACCTCTGCCCTTGCGTTTCTTCTTTGTATGGGTTAAAC
GGCAAGCCGTTTTTACATAGTCCTTGGCACATCAACTCCGTCACCTCTTCAATGCCGT
CCCTTGATGCGAATAGCAGGGCGCATCCGGTTCTTCCGCTTCTATACAGCCTGCTATAT
20 ATTCAAAGGTTCTTACCTGCCTTACACCGTTATAAATCGGCTTGCTTCGGGTTTTTCGGA
CAATGTCGGAACAAACATATCTGCGTAAGGTTGCCGTTATTTACCGGGCTCGCCTTCTG
TTTTATCCGGAAGTACTGCCTGCTGTTCTGTTGCCGCCGATTCTTGCTGGCGGGTTCT
TCCGTTTTTTCCGTAACGGCTCAACATTTTATAGGACAGGCCGACAAACACGGGAATCA
GCAATAACTATTACGGCAGAGTGTAAT

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 297>:

GNMCX02F gnm_297

GGCCAGTGCCAAACAGTGCCAAGCTTGATGCCTGCAGGTGCACTCTAGAGGATCCCCGGC
GACCATTTGGGTTTTGAATAAAGCGGTGCGATTTTGGTGGAGATGGACAGCGCAATCGG
30 GGAAATCATCAGTTCGCCTATCGTGATGGCGAGGACGATCAGTGCGAAAAACGGAAATAG
GAATCGGGGAACCGGAGGAAATAAAGGGGACGAATCCCAAAAACGACGCGCCGGTAACAA
ATACCGCCATAGCGAATTTACGCGGGGTTTTGGGCTGTTTGCGCCCATTTTGTCCACA
TTGCCGCCATCAGTCCGGAACAGGATGACCCACAGGCTTTGCATAGAATCTTTCCAAG
CGACGGGCACGGTAAACGAACCGATGGTGCGGTTGACGGTTTCGTGCGAAATAGACGGTTG
35 CCACGGTGTAATCTGAAACCAGACGGCCCAACATACAGATGGTCAGGAAAAGCGGGA
TGTAGCGGATGATGTGCCGTTTGTGTCGGAAGTACGCGGGGGTTGGTCAGCAGGCGGG
CGAAATAGGCGATGACGGCAAGGATGACGGTAGATAATAGGATGCCGAGAAATTGTGCA
GGTTGACAAGCCCGGTTTTGATGGCGGTTGCAAGTGCGGCGATGAGGGCGATGCCGACGG
CGGCCGCAAGTTTGCCTGTCTTTTGAAGCGGATGGGGGACGGTGGGGTGGGGCAAGT
40 TTTTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 298>:

gnm_298

CCTTCCTCGGCTTCCTCAAAGCGTAGATTTTCATGTGGACGGTCAAACATATCCGACACC
45 AGCAACCCCGTCCGTCCGAACGCAAGCGCAAGGCATCATGCACCGCCAACGCAACCGGC

-719-

AGCGTCAAAAACACCACTCCCGCAAACAGAGCCGCATAAGGATATTTCTCGTTCACAAAC
ATCGCCGTCCCCCTCTTCGAAGCAGACCGCATTATATAGCGGATTACAAAAATCAGGA
CAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTGAG
CACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTGTTA
5 ATCCACTATACCGCGCACTGCCTTGCCGCCCGCCGAAAAGTTGCACAAACAACCGTTCA
TATATATCATGACGAAAAACGCCGGTGTAGCTCAGTCGGTAGAGCAGCGCATTCGTAAC
GCGAAGGTCGGGGGTTTCGATTCCCTTCTCCGGCACCAATACCAAGCACAGACCCTCCCTT
CCTCGGAAGCCTGTGCTTTTTACATTTCCGCTTCAGACGGCACAACCGATATGAACAC
CTCGCAACGCAACCGCCTCGTCAGCCGCTGGCTCAACTCTACGAACGCTACCGCTACCG
10 CCGCCTCATCCACGCcGTCCGGCTCGGCGGGGCCGTCTGTTCGCCACCGCCTCCGCCCG
GCTGCTCCACCTCCAACACGGCGAGTGGATAGGGATGACCGTCTTCTCGGACTTGGCAT
GCTCCAATTGCAAGGGGCGATTTACTCCAAGGCGGCGGAACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 299>:

15 **gnm_299**

ACTTGCATGCCTGCAGGTCGACTCTAGAGGATCCCGTTACAAAAGATCATTAAAAAATC
TTTCAGGAAAATGAAAAAGAGATCCTGAAAAACATTGATAGAATTGAACGGATTCAAAAG
TTAATTATTGGTCAAGTTATGCATAAGACCAATAATCGAGCAAACCCCAACAAGTTTTT
ATAATTGTTGAAAAATATGCTTCATGAAGTTCGGGAAAGAGATAGCTAAAAAAATCAAAT
20 TATTTATCGCTATATAATCCTTAAATTCAAAGCTTTGAATGACCTGCTAACACCCGTAT
CTTCTCAGAACGCCAAGTAAATCCGTTTCAACTCCTCGGGTACCGAGCTCGAATTCTGT
AATCATGGTCATAGCTGTTTCTGTGTGAAATTGTTATCCGCTCACAATTCCACACAACA
TACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCTAATGAGTGAGCTAACTCACAT
TAATTGCGTTGCGCTCACTGCCCGCTTTCCAGTCGGGAAACCTGTCTGTCCAGCTGCATT
25 AATGAATCGGCCAACGCGCGGGGAGAGGCGGTTTTCGTATTGGGCGCTCTTCCGCTTCCT
CGCTCACTGACTCGCTGCGCTCGGTTCGGCTGCGGCGAGCGGTATCAGCTCACTCAA
AGGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGCAGGAAAGAACATGTGAGCAA
AAGGCCAG

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 300>:

GNMCY27F gnm_300

CCAGTTTCGATCTTGATTCTGTGCGATACCGAAGCCCCGCGTCCCGGCCAAAATATCAAGA
TGTTTTTTCCGAAAACCGCAAGCCCGGTACGAGCTCGAATTCGTAATCATGGTCATAG
CTGTTTCTGAGTGAAATTGTTATCCGCTCACAATTCACACAACATACGAGCCGGAAGC
35 ATAAAGTGTAAGCCTGGGGTGCTAATGAGTGAGCTAACTCACATTAATTGCGTTGCGC
TCACTGCCCGCTTTCCAGTCGGGAAACCTGTCTGTCCAGCTGCATTAATGAATCGGCCAA
CGCGCGGGGAGAGGCGGTTTGCGTATTGGGCGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 301>:

40 **gnm_301**

GGATGCGGATGCGCTGAACATATTATCAACCGATGCCGAAACCCGAAATCTGGCGCGCGG
GTGTAAAAACCTGATTTTTAACGCCACACCCCGCCGAAGCCGCGCGCTGCTTGGAACGAC
GGTTGCGCAGGTTTCAGGCGGATCGGACGGCGGCAGTGAGGAAGATAGGGGCAATTTTCGG
CGCAACCGTGTTTTAAAGGGGCACAAAACATTGGTTGCCTCACCCGATACGGAAATCTA
45 TGTCACGAAAGCGGCAACGCGGGATTGGCAACGGCGGGCAGTGCGGACGTATTGGGCGG
CATCATCGGCAGTCTGCTCGCACAGGGCGTGCCGGTTTTTGAAGCCGCGCTGCGCGGGCGC

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GTGGCTGCACGGCGCGGCGGCGSATGTCATAAAAGAATCGGCAGGCATTGCGGCAGGGCT
GTTGGCAGGGGAAATCGCTCCGGCGGCAAGGTGGCTGCGCAACCGGATAACTAAAAGTAT
GTAAGAAGATATAGTGGATTAACAAAAACCAGTACATCGTTGCCTCGCCTTAGCTCAAAG
AGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTAAGTGT
5 CTGCGGCTTCGTGCGCCTTGCTCTGATTTTTGTAACTCACTATACCATAACAACCACGCGG
GAATTAAGTTTAAATTTGAATAAAAGGTTGCGGTTCTGCAAAATACAGAACCCGAACCTT
GTTCCGATATTGAAACCGGCTGCCGATTTTGGGCGGTGCGGCTTGCAAGTATCAAGATT
CGCATATGCCGTCTGAAGCTCGGAGAGGTTGAGACGGCATATGCTTATTTGGGCTGCTCT
TCAACGAATCTCGGACCTTCAAGATGCCGTTGTGAGAATAGGCGACAGCAGGTTGTAT
10 GCsGCGGTTTTGGAAACCTGATAACCGCGGTGCGGTGAGGCTGTTGGCAATCTGATTGACC
ACTGCGCTGACCAAAGCCCCAACAGGCCGCTGTTGCTGTTGCTGCTTCCGCGGATG
CTGGCCGAACCCGACCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 302>:

15 **GNMCZ04F gnm_302**

GACGGCCAGCAACATATACGACGGCCAGTGCCAAGCTTGCATGCCTGCAGGTGCGACTCTA
GAGGATCCCCGCGGCAATAAGGGCAAATGTCAGGACGGCGGATCGGTGCGGCTGTGGG
TGAGATTGTCGGGGAGGCTTTGGTTAAAAATACCGATTTAGCGATATGACCCCGGAACA
ATTAGATCTGGAAGTTAAGAAAATTACCGCTATGCCAACTTGCGGCAGGTACAGTTGC
20 AGGCGTAACGGGAGGAGATGTCAATACTGCTGCACAAACCGCACAAAACGCGGTAGAAAA
TAATGCGGTTAAAGCTGTTGTAAGTCTGCAAAAGTGGTTATAAGGTAGCCAGAAAAGG
ATTAaaaaacgggaaaatcaacgTTAGAGATTTAAACAGACGTTGAAAGACGAAGGTTA
TAATTTAGCCGACAACCTGACCACCTTATTCGACGAACATTGGATTGGAACGATGCCAA
AGCCGTTATTGATATTGTCGTCGGAACAGAGCTGAATCGCGCTAATAAAGGGGAAGCGGC
25 ACAAAGGTGAGGAAGTTTTAGAAAAATCGTCTATAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 303>:

GNMCZ23F gnm_303

CCGCATTGAAAGCGGAGACTTATTTTTGTGCGCCTTACCATTCTTGGGAGAAAGGGCTGA
30 ATGAGAACACCAACGGACTCATCCGGCAATACTTCCCCAAACAAACCGATTCCGTAACA
TCAGTGATCGGGAGATACGCAGGGTTCAAGATGAGTTGAACACCGACCAAGAAAAACAC
TTGGCTACGAAACGCCAAGTGTTTTATTCTTGAATCTGTTCCAACCACTAATACACTAGT
GTTGCACTTGAAATCCGAATCCAAGGCCGTCTGAAACGATAAGGTTTCAGACGGCATTTC
TTTCTTTATAGTGGAGAACTTTGGCATTTTTTTTGGCTCGCTTAGCTTGATGATACGAT
35 TCTCTAAGGTGCTGTAGCACAAAGTGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 304>:

GNMCZ29TR gnm_304

TCTGCGGCTCGACGCCCTTGCTCTGATTTAAATTTAATTCACATATATTCATATGCTTATT
40 TATCTAATTTTTCCCCGGTAACAAGGTAACAATAAGGGTATCGCTTCCTAGTATAGGTT
TTTTCCAAAAACCCAAAAAACCGCCCTGCATCTTGGACGGTTTCCCCCTTGTTCCCTA
CGTCTTGGCAGTATTCCCCGCAAGCTCTTTTCCGCTTGGCATTCTGATTTGGCGGTGCT
TCAGCTTTATTTTGGCGTATTTTTTCGAGGTATTTTCAGATACCGCAAAAGATATCGT
AAATTTTAGGTTACTTCAATTAGGGCGGATTGGACGGGATTGCACTGTCAGGAAGGGGGA
45 CGGCACGATAACAATCAGCCTGAAATCCTTGATTGATTGCAATTGGTTGACAGCGTTGG
ATGGGATTGAACAAAAACGCCGTGAAATTTTCAGGCGTTTTTGTCTGTTGGTGCCGACAG

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CGAGATTTGAACTCGCACAGCCTACGGCCACTACCCCTCAAGATAACGTGTCTACCAA
TTCACCATGTCCGCATTTGAAAACTGTTATTTCTGCTGCTGACGAACAAGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 305>:

5 **GNMCZ50F gnm_305**

CGGCCAGTGCCAAGCTTGCATGCCAGTGCGAAGCTTGCATGCCTGCAGGTCGACTCTAGA
GGATCCCCCAGACGCAGGTACAGATTAGGCGGTGTGCCGTAATCGTACGAATGCCGATT
AACCTAAGCAGACATCAGTATTTAGGAAGTGGATGTTTGTGGAGCAAAGGTTGTACGAA
GGGTGGAAGGCAACCTGTGGGTGTTGGTATGGTCGCGCTTGAAAAACGTGTTTTAAGG
10 GACAAATGCCGTCTGAAAATCGGTTTCAGACGGCATTCTCTGTTTATTAAAGCAAACAG
GAAAAGGCAGCAATATTCTGCAGTCTTCCTATTCACACAAGCGTTTTATAGTTAATTAA
AACAAGATAGTACAATACTCACTTTGAAGGTCTAACCATGGCATACTCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 306>:

15 **GNMCZ56F gnm_306**

GACGGCCAGCTAGGAAACGACGGCCAGTGCCAAGCTTGCATGCCTGCAGGTCGACTCTAG
AGGATCCCCGTTCCGTATTGGTTGCAACACCTTTGCCGGCACAGTCGGGAAATGCTGTTG
GATTCACGGCAGCACAAATGAAGTTCGGGGACAGTAAGAATTTCTCAAAATTAGAGAAATC
TCAAATACCCGTGCGAAGTTATGGTAACGGTTGAAATGACTTCGACAGGTAAGGGCATGG
20 TTCCTTCATTAATTGATTTTCAGGTGGCAGAAAAGCCGAAAGGTTGATTTATGAAATTTG
AAGAACGTTTCATAGTTCAAGACTTGGAACGCATGACTTTATTTATCCCGATCCTTTTCG
GTGATGTGGGGTTTACTCAAAATATTAAATCAGCAGGTCAATTTGAAAGCTACGAAGATG
CGTTGAATTCAGGCATAAATGAAATAGGCGGAGGATTCCAGATATTTCAAGTTCTTCGTAA
AATCGGAATAAAAGAAAAACAGGCTCGGCGGGCGGTCTGTCAACCTTTCACAAAGCCCGC
25 ACAAAGGAAAAATA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 307>:

GNMDA71TF gnm_307

CCCCTCCGACCGGGAAGCCTGTGATTTTTATTTCCAGGCGTATATATGCGGGATGAAAT
30 GGTAGTTGGGGCGGAGGGCGCGTTTTGTATGTGCGCGACATCGCCCAGTACAGCCGCAA
CATCCAAGCCGGTATTGCCTTTATTGTGCGAAAGGCGGAACACCGCCGCGTCAGGGTGGT
CGCATCGGGCAGCAGGGCGGCAGGTTTCAGACGGCATTGCCTGCGAGGAAAAGCTGGCGGA
ACTGCTGTGCGAATCGGTCGTCGTTATCCGCGCTGCGTATGCAGCATGAAGACATTCC
CTTCCTGATACAGGGGATTGCCTGCAATGTGGCGGAAAGCCAAAAGATTGCGCCTGCCTC
35 ATTCAGTGAAGAGGCATTGCCGCATTGACCCGTTACGACTGGCCGGGAAATTTGACCA
ACTGCAAAGCGTCGTTGCAACGCTGTTGTTGGAGGCGGACGGACAGGAAATCGGCGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 308>:

GNMDB47TR gnm_308

40 CTGGTCGGGGGAAGTCCACTTTGTAAACATTTCAACAGGTAGCCTAAAACCTGAAACTG
GTACAGTTAGTATTAATGGGCATGATATATCAAGTTTCTCCATCCTTTATTAGGGGAT
TGAGCGGGATTGTTTCGCCAAGATGATGTCCTTTATGCAGGAACTATTGGCGACAATAAGC
CATAACGCGTGATTTACCAACCTGTTACCATTGAGCCGCGGAGATCACGCCGCGTATCG

-722-

TCCGTGAGGAGAACTACGGTGGCCAATAAATTAAGAACTACACCACTCAACTTCGGCCCCG
 CAACACCCTGCGGCGCACGGCGTATTGCGTATGATTTTGGAGCTGCACGGCGAACAAATC
 GTCCGTGCCGACCCGCATATCGGCCTCTTGACCGAGGTACCGAAAACCTGGGGGAAACC
 5 AAAACCTATCTGCAAGCCCTGCCCTATATGGACCGCTTGGACTATGTTTCCATGATGGTC
 AATGAGCAAGCGTATTGTTTGGCAGTAGAAAACTTGTGGGTATCGATGTGCCCATCCGC
 GCCCAATACATCCGCGTGATGTTTGGCGAAGTAACGCGCATCCTCAATCACTTGATGGGC
 ATCGGTTGCGATGCCTTCGACATCGGCGCGATGACCGCATCTTTACGCCTTCGCGGAC
 CGCGAAGAGCTGATGGACCTTGACGAAACCGT

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 309>:

GNMDB48TR gnm_309

CTGGTCCGGGGAAGTCCACTTTGTTAAACATTTCAACAGGTAGCCTAAAACCTGAAACTG
 GTACAGTTAGTATTAATGGGCATGATATATCAAGTTTCTCCATCCTTTATTAGGGGAT
 TGAGCGGATTGTTTCGCCAAGATGATGTCCTTTTTCGAGGTTCTATTGGGGAAAATATTT
 15 CATTTTTTGATGAAAGCCCAATATGGAGCTCATTGAACAATGTGCAAAAATGGCACAAA
 TACATGACGATATACTTAAATGCCAATGGGCTATGAGACCTTGATTGGCGATATGGGAA
 ATATCTTATCAGGTGGACAGAGGCTTGAGAGTTATTTTGGAGCTGGACGGCGAACAAATC
 GTCCGTGCCGACCCGCATATCGGCCTCTTGACCGAGGTACCGAAAACCTGGCGGAAACC
 AAAACCTATCTGCAAGCCCTGCCCTATATGGACCGCTTGGACTATGTTTCCATGATGGTC
 20 AATGAGCAGGCGTATTGTTTGGCAGTAGAAAACTTGTGGGTATCGATGTGCCCATCCGC
 GCCCAATACATCCGCGTGATGTTTGGCGAAGTAACGCGCATCTCTGTCACTTGATGGGC
 ATCGGTTCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 310>:

25 gnm_310

TGCCGCTGCTGCTGAAGGGCGCGGACGTGTTCAATACGGGGAATGCGCGTTATGTGCTGA
 CGGCTATGTGATGCCCTTTCGGCGGTGTCGTGCGTCATCGGGCTGTTGGGGCGGTTCA
 GGCTTCAGACGGCATCGGCGAGGGCGCAAAGTCAGGGGGTGCGGGCAAGGCGGACGGAT
 AGGACGCATTTTTTCAGCGGGTGCCTCGAGAAGCAGCCGATGTGTTTGGCAGCCGAGCTT
 30 GGGGGGTGTAGTGCTAATGGCGGTTTCTTTGCTTTTATAGTGGATTAAACAAAACAGTA
 CTGCGTTGCCTCGCCTTAmCTCAAAGAGAACGATTCTTAAGGTGCTGAAGCACCAGTG
 AATCGGTTCCGTACTATTTGTAAGTGTCTGCGGCTTCGTGCGCTTGTCTGATTTTTGTTA
 ATCCACTATACCATAACAACACGCCGGAATTAAGTTTAAATTTGAATAAAAGGTTTCGGGT
 TCTGCAAAATACAGAACCCGAACCTTGTTCGGATATTGAAACCGGCTGCCCGATTTTGGG
 35 CGGTGCGGCTTGCAAGTATCAAGATTGCGATATGCCGTCTGAAGCTCGGAGAGGTTCAGA
 CGGCATATGCTTATTTGGGCTGCTCTTCAACGAATCTCGGACCTTTCAAGATGCCGTTGT
 GAGAATAGGGGACAGCAGGTTGTATGCGGCGGTTTTGGAAACCTGATAACCGCGGTCGG
 TCAGGCTGTTGGCAATCTGATTGACCACTGCGCTGACCAAAGCCCCAACAGCGCGCTGT
 TGCTGTTGTTGCTGCCTTCGCGGATGCTGGCCGAACCCGACCACAACCTTTTCCGTTGC
 40 GGGAATCGACAGCCGTGCTTTGGCGGATACGGTCGTCACGCTGTCTAAAATTTGATATG
 AAGTGCCGTATTCGGTAACCGTAATGTACAAAACCGCATATTGCCGAAAATCTGATGCA
 GTTTTTCCGGCCGACGGCGTGAATATCGGCGGCATTGGTCAAGCCGTTTTGTTTGAAGG
 TTTCTCCACGACTGCGGCGGGGAAGACGTAATAGCCGGCTTCGGAAGCGGCGCGGCGG
 TCGAAGCCAGTACACCCCATGTTCCGTTGACATCGGGCGATTCTGTTAGCGGCGGAACCA
 45 CAAAATTTGAAGCCGTTTGGCTTTCCTTGAATGACGTGTAGTCGAAATCGGGCGCTTTTT
 GAACCTGGCAGGCGAGACAGCGCCAACACGGCGGCAAGCCCTAAAATCAAAGGTTTCATCG
 CTTGCCTCCTTTACCGGTTTTTCATCAGGAAGTCCATAAATACGCCGATTTCGGGAAACAG
 CCTTTTCTCTTCTCAAACCTGGCGGAACGCGCCCTCTTGTCTCCCGAACGGGAAAGCAG
 CAGTCCAGATGGGCGTGCGCACCCGGGCGGCATTCAATTTTTTTGTTGCGGCTTCCAC
 50 AAAGTATTTTTCCATCTTTTCGGTCTGCTTGCCCAACGAAGTGTGTCGTTTTTCAAACC

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TTCATAGACGGTATCGGGATAGCCGCCGTAATAATACAGGGATTTTGGCCGTTGCCGCC
 GCAGGCGGTGAGAGCCAAGACCGCCGACACAGCGACAAACGGCTCAAGGTTTTCGGATT
 CATCATTTCTCCTTAACGGTTGGGTTGCCATGCGCCGTTGTCAACAGCCTGAACCAGGCT
 GTTGACGGCTTCGCGGATTGCCAAGTCTAAACCTTTGCCGTTCAAAGTCGCATCGTAGCC
 5 GGAAGTCCCGCCGAAACCGATGATTTACGGTTGGAAAGTGCATTCGCCCGCGCCCTG
 TGCGGAATAGACGATTTCCGGAAGTATTGACGTTGACGATATTAGAGCCACTTTTGCCATA
 GGCATTGCGATTGTCGCGACCCAAAATGCCGAAGAGCTGATGATCGCCGACATCTCT
 CGGTCCGAATTTCGGTTACATCGCCGGTAACGACATAATCTGCGCCTTTCAGGTTATGCGC
 TTTGCCGGAATGCCGATTCTCTGTTTTAATGCGTTCAAATTGGTGCGGTTAGTACGTT
 10 GAAGCGGTTGGTCTGTTGACGGTGCGTTACTAGAATGGTTTTTGCTGGCTGCCCAAACG
 GTCTTCCCGCTCGGAGAAAATGCCTTTTTGGAAGCTGGAGCGGTTGTGAATGTTCCGAC
 GGAAATCGGGGTACGAACACCGTGATATTGCGTATTGTAGGAGGCGACTTTCTCTACCTC
 GAGACTGCGTGAGGATTTCGGTCGCACAGCCGGTCAGTGAAACGGCAGCGGCGGCAAGGAC
 AACGGCGGTGGAACGGTTTTCATAAATTTACCCTAAGGTCAAGTTAAGGAAATAACGG
 15 GGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 311>:

GNMDE39F gnm_311

CGTATTGCGCACCGTCCCCAAAGTCTCCGGCGTCTGCGAAGCGTCAAAAAAGATATCC
 20 GACAGCGGGTCCCGTCTGACCGGCGGAGAAAACAATATCGGCTTCGCACAAAGCAAACG
 CTTGGCGGAATCGGCGTCAAGTCCGCATAAGCCGCGTGTTCAGACGGCATGGCGTTCAG
 ATGCCGTCTGAACACTTTGCCGTGATAATCCGCATCTTTACTGTCCAATTTCGCGGTTCCG
 CAAACCTCCCGCGTTACCAAACTAGGGTTCGATATGTCAAACCAACAAGCCTTGGTCAT
 CTTTTCGGGCGGTGAGGATTCGACCACCTGCCTGATTGAGGCAATCCAAACCTACGGGCG
 25 CGAAAACGTCCAAGCCATTACTATCCAATACGGGCAACGCATGCCGTGAGCTGGAACGT
 GCCCGCTGGATTGCGCAGGATTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 312>:

gnm_312

GAATATCCAATAAGACAATATGTTCTTTTGAAAAATACTTTGGwtTTTTCGCCGAAAAC
 30 AGGACGGTTCAAGTTGCGGAAATTGTTTGCAATTCTTTAAAAGCAGCGGCGGAGGTCACA
 ATGAAATGTCCGAATGGGGATGTGGCGGGCGGCAGAAATCATCAATGCTGCCGACTGCCA
 TACTTCTGAAATCTACAAAATGATGCATCGATCAAACAATATACCGCTTTAAAAAAACCG
 ATGCCGTCTGAAACGCTTTCCGGGTTTCAGACGGCATCAAAGGGTACGGTCAGCGGATG
 35 ATGCCGCGCGCGGATTGTGCGAAAAAGTCTCGGAATACGGCAAGCTCGGCTTGGGTTTCG
 GCGCGGCGGAGAATGTCTGCCTTGGCTTCTTCAAACGGAATGCCGCGATGGTAGAGGGTT
 TTGTACACGTCTTTGACGGCGGAAATCTGCTCTGCGGTAAAACCGTTGCGGCGCATGCCT
 TCGCTGTTGAGCCCCCGCGGTTCCGGCGGGTAGCCCGATGCCATAAAGTAGGGCGGCACG
 TCTTTGTGTACGCTGCGGCAAACGCGGTCATGGCGTAGTCGCCGATGCGGCAGAATTGG
 40 aAAACAGCGTGTAGCCGCCCAAACGACGTAGTCGCCGATGGTAACGTGTCCGCAAGC
 GAGGCGTTGTTGCGGAAAATGGTGTGGTTGCCGATGAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 313>:

gnm_313

TTATAACATAACAAAATCTTTAACCACACCGACAAAGGCTGCACCATGAAGAAAACATT
 45 GACACTGCTCGCCGTTTCCGCCCTATTTGCCACATCCGCCACGCCACCGCGTCTGGGT

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CGAAACCGCCACACGCACGGCGGCGAATACCTTAAAGCCGACTTGGGCTACGGCGAATT
TCCCGAAGCTCGAACCCTCGCCAAAGACCGCTGCACATCTTCAGCAAACCGATGCAGCT
GGTTACCGGAAAAAGGCAAGGAAAACATGATTCAACGCGGCACATACAACCTACCACTACCG
AAGCAACCGTCCCCTTAAGGACGGCAGTTACCTCGTCATCGCCGAATATCAGCCTACTTT
5 CTGGTCAAAAAACAAAGCAGGCTGGAAACAGGCGGGCATCAAAGAAATGCCTGACGCAAG
CTATTGCGAACAAACCCGAATGTTCCGCAAAAACATCGTCAACGTCGGACACGAAAGCGC
GGACACCGCCATCATCACCACCGGTTCGGACAAAACCTTGGAAATCGTCCCCTGGACAA
TCCCGCCAACATTACGTAGGCGAACGCTTCAAAGTCCGCGTTCTGTTCCGTGGCGAACC
GCTGCCCAATGCCACCGTTACCGCCACCTTTGACGGCTTCGACACCAGCGACCGCAGCAA
10 AACGCACAAAACCGAAGCAGGCTTCTCCGACAGCAGACGACAAAAGGCGAAGTGGA
CATCATCCCCTTGGCCCAAGGCTTCTGGAAAGCCAATGTCGAACACAAAACCGACTTCCC
CGATCAAAGCGTGTGCCAAAAACAGGCGAACTACTCGACTTTAACCTTCCAAATCGGTCA
TTTCGACCATTAATCCCGCCCGCACAAAATGCCGTCTGAAGGCTTCAGACGGCATTTTT
TGTTCACCATTAATCCCGCCCGCACAAAATGCCGTCTGAAGGCTTCAGACGGCATTTTT
15 TCATGTAAGACGCGGTTTCGCAAATCGACATCATACTCTTGCGCCAAGTTCATATATCGC
GGAACGCGCGTCGACGAGCAGCGGTTCTTTCTCTTGAACCTTCGTCAAACCTCCAATAAT
AGCCTTGCAGGTTTTGCACCCACTCGAAATAGGAAACGACCACGCCGCCGAGTTTCGCCA
GAATATCAGGCACGACCAATACGCCGTTTTGACGCAGGATCACGTCCGCTTCGGGCGTAG
TCGGGCGGTTTCGCGCTTCGACTACGATTTTCGCGCGGACTTTACCGGCGTTTTTCGGAAG
20 TCAGTTGGTTTTTCAGCGCGCAAGGGCGAGTACGTCCACATCCAAAGCCAAAAGTTCGG
CGTTGGTAATTTCTTTCGCGTAACCGGCTTCGTTGGTGATGAAGCCTTTTTCTTGGAAC
CTTTAAACAAAGCTTCCATATCCAAACCGTTTTCTGTGTAATGGCAACGTCAACAGTAG
AAACCGCAACAACCTTTCGCGCCGGATTGATGCGCGTAATAACCTGTGTGGTAACCCACAT
TACCGAAACCTTGAATGGCGTAAGTGGCACCTTCACGTCTTGGCCAGTTTTTCCAAAG
25 CTTGGACGGCGCGAGGTTACGCGCTAACCGGTAGCCTCGGTACGCGCCAAAGAGCCGC
CGAACTCAACCGGTTTTCCGGTAATACGCCCGCGCGGAATGTTTCACCACGTTTTTCAT
AAGCATCCACATCCACGACATAATTTGCGGTTGGTATTACATCGGGGCGGGAATAT
CGATTTTCTCGCAATCAGCGGGCAATCGCTTCAGCATAAGCGCGGGCGATGCGTTCCA
GTTCCGCTTCGGAATAATCGCGCGGATCCAAGGTAATGCCGCTTTGCCGCGCGGTAAG
30 GAATACCCGCAACGCAGCATTGATGGTCATCAAATTGACAGGGCTTTGACTTCGTCCA
AATTCACACTGGGATGGAAGCGCAGCCGCTTTATAGGGGCGACGGCGTTGTTGTGTT
GCGAACGGTAGCCCGTGAAGGTTTTGACCGTGTCTGTCGTCGAGTTTGACGGGAAAATTGA
CTTCCAACACGCGGGTCGGACTCTTCAGGATTTCAAAACGGCCGGATCGGTTTTTCAGCC
GGTCACAGGCGGTTTTACCTGTTTGCAGCGGATTTCAAACGGATTGAGGGTTTTCTTTTG
35 CAAGGGCTTCAGACATTTTGTCTTCTTTTACAAAAGAGAGGTTTCGGAATGGAACAAGCCA
TCAGGTTTCGCACTATAACCAATTTTCAAGCAAAATGTAATAGCGTGTAGTTGGAATCGG
CCCGATTTGATTAATCTATATATGATTTTATTTCCCAAGCCGACGGAATCCGTCTGAAA
AAAGCGGAACACATATCCAAAAGCAAATGTCCAATTAATAAAGATATAAGAATCCTTT
TATTTTTTTAAATTTAATTGGAACGGCGCCGGGATTTGCACACCCTTCCCAGACTCCGTT
40 CCGAAATCCGGAAACACCGCCGGCAAAACCTGTTTCGATTGTTAACAATCCATACATTAG
AAGCCCTGTGCAACGATGTTAAATAAACCTTTTCAACCCGACAGAAAACCGGATTATG
AATGCAGCCATCGAACACGTCCAAGCCGTGCGCTTCGATTGGAACGGCACACTGTGCGAT
TCCGTCCCGGACCTTGCGCGCGCGCAGAGCGATGTTGGAACAACCTCGGTATGAAACCG
CTGCCTGCCAAAGTGGTCGAAAGCTATGTGGGCGACGGCATCGGCAAACCTGGTTCACCGC
45 GTCTTCACCAACGACCGCGACCGCAAGCCGATTCCGAACGTGGGAAAAGGTTTTCGTA
TCTATATGAAATACTACCGCGACCATTTGAGCGTCTTACCCGCCCTATCCCCGAAACCG
AAGCCGGGCTGGCATTGCTTAAATCTTTGGGCATCCCGCTCGCCGTCGTTACCAACAAAA
ACGAAATCCTTGCTCCGAGCTTCTAAAACAACCTGGGACTCGCCGACTATTTAGCCTGA
TACTCGGCGGCGCAGCCTGCGGAGAAAAACCCAGCCCCCTGCCGTGCGGCACGCCG
50 CCGAAGTTTTGGGTATCGATGTTGCAACATGGTTATGGTCGGCGACTCGCGCAACGACA
TCATCGCCGCCAAAGCCGCCGGCTGCTGAGCGTCGGCGTTACCTTCGGTTACGGCGATA
TGACGCTGCTCTCGCAAGACGATGCGACCCGCCCGACTGGATTATCGGCTCGCTGCCCCG
AAATTTACGAAAACCTGCAACCTCAGAAAAACAAAGAAGAGTAGGCATTTCGGACGGCTCC
GGTTTGCGCCGCTATGCCGTCTGAAACCTGCCCCACGCCGAAACCGCCGATGAAACCG
55 CAAAATCCCTACGCGCCCGCGCGATGGACATCTCTCGCGCCAGAACTCAGCCGCATC
GGTCTGAAACGCAAACTTGACCGCACGCCGAAAGCGAAGAGGATTGGAAAACGTGTTA
AACGAATTTGCCGAACGCAACTGGCAGTCGGATTGCGCTATGCCGAAGCCTATATCCGC

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AGCAAAAGCCGCAACACGGTTCATTGAGGCTGAAACAGGCTTTGGCGCAACAGGGCATA
GATGAAGAAACCAGCCGCAACCTGCTTCCCGACCGCTCAAGCGAAAACTGGCCGCCATA
GCCGTGTTGCGTAAAAAATTCAAACATCCGGCCGCGACCTTAAAGAAAAACAAAAACAG
GCACGCTTCCTCGCCTATCGCGGTTTTGATGCCGATACCGTTCAGACGGCATTGAAACAT
5 GCCTGGGATGACGGCTGGGAGGAAGACTGCTGAACCTGAATCCTTGAATCTTTTGCATGA
CGGCGTAACCTTACCTCCATTTCCAACTTTCCGATTGAGAATAAAATGTCCGAACAATC
CGAGAAAAATCACAAACCCACTTCTTGAAGATGAACGCAAAAACCCGGTTTACCGTATGGG
TCAGGCAGTTGCCGGATTTCATGCTCGTCGTTTGGGCAGGCGTATTGGCACTCGTGTTTTT
CCTAGTCTTCCGTTTTTGGCTTTCCTAAACAAAATGCCGTCTGAAACCTTCAGACGGCAT
10 CGGCAGCCCATTTCGGCAGGCTATCCCATCATAGCTTTTTTTAGCTTGAATCCACTTTC
CCATTCCCTAAAATTTTCCACACCCATTTCAAAATACCCTTTCTTAAACAGGTACACT
ATGACACAACAACGCCAACTGCCTTCGCACGAACTCATTATGTCCGAACCTGATGATGCCG
GACACCGCCAATTCAGCGGCAACGTACACGGCGGCGAACTCCTGCTCCTGCTCGACCAA
GTGCGCTATTCTGCGCCAGCCGTTACAGCGGCAATTATGCGTTACCCTGTGCGTTGAG
15 AAAGTCCTGTTTTAAAGAACCCATCCATGTGCGCGACCTGGTTACTTTCTACGCCAGCGTA
AACTACACGGGGCGTACCTCTATGGAATCGGCATCCGTGTGCAAGCACAAAACATCCGT
ACGGGAGAAATCCGCCATACCAACAGCTGCTACTTCACCATGGTTGCAGTCAAAGACGGC
AAACCCGTCCCTGTCCCTCCGCTGGAAATCCTGACCGACCGCCAACGCTGCCGCTACGAA
AAAGCCAAAAAACGCGAGACATCAGCCTGCAAGCCTCCGGAGACGTGTCTGCGGCTGC
20 TGACGGCGGACTATGCCGTCTGAAAGACAGGCACATCGCGCCATCCGTTTCCATTGCAAA
CGGATGAAATCAAGCAAATATAGTGGATTAAATTCAAACAGTACGGCGTTGCCTCGCCT
TAGCTCAAAGAGAACGATTCTCTAAGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTA
TCTGTACTGTCTGCGGCTTCGTGCGCTTGTCTGATTTTTGTTAATCCACTATACCCAAA
CACAGTCAAACAAATTTATATGCCCATCCCTTCCGAATAATTTGAAAACACAGCCGCCA
25 AAAACAAAATGCCGTCTGAAAACCTTTCAGACGGCATTTCCAACTTGATTTCAGGCAGA
AAGTCAGAACCGATATAGCTGTTCCGGTTAACCGGTTTGCCGTTTTGACGCACCTCGAA
ATGAAGCTGCGTTCGGAAGCATCGGTATTGCCATCAAAGCAACCTGCTGACCGCGTTT
GACCTGCTGCCCCGCGCCGACAGCAATTTTGGTTGTGCCCCGATGCGGTGAGGAAAGA
AGAATGATGCGTATGACCAAGTTTCCGTATCCCTCAAACCTGAACCGGCATAAAC
30 CACTTTGCCGTGAGCCGCCGCAAAACGGGCTGTCCCGCATTACCGGCAATATCGACACC
CTTGTTGTTGCCGCCGAAATCGGCAACCACTTTACCTTGCCTGCGACGCTGCCAAACAAT
GCCGCCGACCGAACCGGTGCCGGAAGCGGAAGCGGCAGGAGATTGCGGGGCGGGCGCGGG
AACCGCTTTATTTCCGCAGCGGGCGCGGAGGTTGCGGCGCGGACTGCACAGGCGGTTG
CGCGGCGGGTTTACAGGGGTTTGACGGCAGCCGGTACGGCGGGCCTGCTTTCTACGGC
35 TGCGGTTTTCCGTGCGGCATATCCTGCCGTTTGACTTTAACAATCTGACCGATGCTCAA
CATATTGTCGGTCATGCCGTTCCACGCACGGAATCGTCTTGAGAGATATGGTAGCGTTT
GGAAATGTTGTACACCGTGTGCGCGGCACAAATAGTATGCGTCGCCGCGTTAATGTGAC
GGGTGCGGACTGTACGGGCGGTTGCGCGGCAGCCGGTACGGCGGGCCTGCTTTTACGGC
TGCGGCTTTCCGTGCGGCATATCCTGCCGTTTGACTTTAACAATCTGACCGATGCTCAA
40 CGTATTGTGCGTCATGCCGTTCCACGCACGGAATCGTCTTGAGAGATATGGTAGCGTTT
GGAAATGTTGTACACCGTGTGCGCGGCACAAATAGTATGCGTCGCCGCGTTGATGTGAC
GGGTGCGTAAGAAGGAACGTATGTACCCGAAACGGCAGGTGCAGACGGCGGAACATAAGC
AGGAGGCGTATAAACCGGCGCGCTTTCACCGGCGGCACA

45 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 314>:

GNMDE70F gnm_314

CCGTCAAAGCCACCGGCGGCAACAGCGGTTGGGCGGCGACGATTCGACCACCGCCTGT
TCTGCCGCTGCTCGAACAAAACGGACTCTCCCAACTCAACGGACAAGACAGCCAACCTCC
TGCTCTCGGTGCTCCGCGGCGGCAAGGACAATTTACCACGCAACCGAAGCGCGGATT
50 AGGCGACGGTTTCAGACGGGATTGGAATCGACACAAGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 315>:

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GNMDF12F gnm_315

ATGACGACGCAGGCTTCGTCTATCATACAGGTTTCGTGGATTTCGGGCGTGCGGTTTTGG
 AAAGTTCGGATTGCGTTCATTTTTCCTCCTTCGGTAAGGTATATATGTTAAAGGATTTA
 TTAAATATCCCCCTGATTGCTTTTAAATCCTGCCTGTTATATCGACCCCGAGTAATGT
 5 TATTATCGGGAATATCAGCTTATATATCATTTTATTGGACTTTTACAGCATAAACCTTAA
 ATTATACGCCCTTCTTTTATATCAGCATCACACTCTATATTTTCTCGTCATTATAAA
 AAGCAAAACGAGATATTTCGTAGGATAGATAAGAATAAAGATAACTGATATATCCCTATT
 ATTTTCCATTTCCGCATTTTTTCCAAAATATA

- 10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 316>:

gnm_316

CAACAAAGCAATCTAGAAACCCGTCATTCCGGAGCAGGCGGGAATCCAGACCTCCGACGC
 GGCGGGAATCTATCGGAAATGACTGAAACCCCGAGATTCTAGATTTCACTTCCGTGGGAA
 TGACGTGGTGCAGGTTTCCGTATGGATGGATTTCGTTCATTCCGAGCAAGCGGGAATCCAGA
 15 CCCCCGACGCGGCGGGAATCTATCGGAAATGACTGAAACCCCGCGTTCTAGATTCyCACT
 TCCGTGGGAATGACGTGGTGCAGGTTTCCGTATGGATGGATTTCGTTCATTCCGACAACAC
 CGTAATCTCGAAATTCGTTCATTCCGCGCAGGCGGGAATCCAGCCCCCTGACGCGGCGGGA
 ATCTATCGGAAATGACTGAAACCCCGAGATTCTAGATTTCACTTCCGTGGGAATGACGT
 GGTGCAGGTTTCCGTATGGATGGATTTCGTTCATTCCGCGCAGGCGGGAATCCAGACCCCTG
 20 ACGCGGCGGGAATCTATCGGAAATGACTGAAACCCCGCGTTCTAGACTCCACTTCnCGTG
 GGAATGACGGTTCAGTTGCGCTCCGACAACACCGTAATCTCAAAACCCGTCCGACAACAC
 CGCAATCTTGAAACCCGGGATTCCGCAyAGGCGGGAATTCAGACCTGTCCGCACAGAAAC
 TTATCGGATAAAACAGTTGCCCAAACCACGCGTTCTATAGTGGATTAAATTCAAACCAG
 TACGGAATTG

25

- The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 317>:

gnm_317

GGTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGGCGGAGCC
 TATGGAAAAACGCCAGCAACGCGGCCTTTTACGGTTCTCGGCCTTTTGCTGGCCTTTTG
 30 CTCACATGTTCTTTCTGCGTTATCCCCTGATTCTGTGGATAACCGTATTACCGCCTTTG
 AGTGAGCTGATACCGCTCGCCGAGCCGAACGACCGAGCGCAGCGTTCAGTGAGCGAGG
 AAGCGGAAGAGCGCCCAATACGCAAACCGCTCTCCCGCGCGTTGGCCGATTCATTAAT
 GCAGCTGGCAGCAGGTTTCCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATG
 TGAGTTAGCTCACTCATTAGGCACCCAGGCTTTACACTTTATGCTTCCGGCTCGTATGT
 35 TGTGTGGAATTGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCATGATTACG
 CCAAGCTCGAAATTAACCCCTCACTAAAGGGAACAAAAGCTGGAGCTCCACCGCGGTGGCG
 GCCGCTCTAGAACTAGTGGATCCCCCGGGCTGCAGGAATTCGATATCAAGCTTATCGATA
 CCGTCGACCTCGAGGGGGGCGCCGTACCCAATTCGCCCTATAGTGAGTCGTATTACAAT
 TCACTGGCCGTCGTTTTACAACGTCGTGACTGGGAAAACCTGGCGTTACCCAACCTTAAT
 40 CGCCTTGACAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCGAT
 CGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCAAATTGTAAGCGTTAATATT
 TTGTTAAATTTGCGTTAAATTTTTGTTAAATCAGCTCATTTTTTAACCAATAKGCCGAA
 ATCGGCATAATCCCTTATAAATCAAAAGAATAKACCGrKATAKGGTTGAGTGTGTTCOA
 GTTTGGAACAAGAGTCCACTATTAAGAACGTGGACTCCAACGTCAAAGGGCGAAAAACC
 45 GTCTATCAGGGCGATGGCCCACTACGTGAACCATCACCTAATCAAAGTTTTTGGGGTCG
 AGGTGCCGTAAAGCACTAAATCGGAACCTAAAGGGAGCCCCGAATTAGAGCTTGACGG
 GGAAAGCCGGCGAACGTGGCGAGAAAGGAAGGGAAGAAAGCGAAAGGAGCGGGCGCTAGG
 GCGCTGGCAAGTGTAGCGGTCAcGCTGCGCGTAACCACCACACCCGCCGCGTTAATGCG
 CCGCTACAGGGCGCGT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 318>:

GNMDI14TR gnm_318

5 ACCTGCCTATGATTTGCTCTGCCACTTGGGCTTTGCCGTCAAAATGCGTGTGGGTGTGGT
TGTCGATTTGTTTGTCCAATTCGTCAATCAGCCGGTCAAAATGGGCAATCAGTTGTTGA
CGCTTTCGACTTGCCTTTCATGAACCTAATGCAGACGGTTTTTCTCGGCAGTCCGCATAT
CCACCAGTTGGTTGCGGCGGTTAACCAAGGCTTCCAACACTTCTTCCACTTCGGTGGGCA
GGTGGAAAGGGCATTGTTTGCGAATCTGCCGTCGGTAACGTCATCTAGAACTTTAATGGCG
10 GTAAGCTAGAGCATGTTTCGAGTGGGAAGTACCGTTTTTACCGGTGAAACCTTGAACCAA
TACTTTAGTGTCTTTATTAATCAATACGCTCATTCTTTCTCCTTAGGCGTTTACGGCTG
CAACAATTTTTTCGGCTGCGTCATTACAGCCGCTCTGCAGAAGTCAGTTTCAGACCTGATT
CGTTACGATTTTTCGCGCCGAGTTCGGCGTTGTTGCCTTCCAAACGAACAACGACAGGAA
CGTTGACGTTGATTTT

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 319>:

gnm_319

CCGCTTTTGAAAAGACGTTTTTAAATGCAGATATCCCCGTCTGCTGGACTTTTGGGCTC
CGTGGTGCGGCCCCCTGCAAAATGATTGCCCCGATTTTGGACGACATTGCCGCCGAATTTG
20 AAGGCCGTCTGAAAGTGGTCAAAATCAACATCGACGACAACGAAGCCACCCCGTCCCGTT
TCGGCGTGCGCGGCATTCCGACCCTGATGGTGTCAAAAACGGCGAAGTCGTGCCACCA
AAGTCGGCGCATTTGGCAAAAGGTCAGCTGACCGCCTTTGTGCAAGCCTCTATCGCCTGAT
AAAGCGCAATCGAAAAAGCCGCCGGAAGATTCGGCGGCTTTTTCGCACCCCTAAGATTT
GTGGCGGATTTCCAGCACCTATGGATTTTTTGTGTCGGAAATCTTCGGGAACGGATTG
TTTGGAAATGTCTTTGACGGCGTATTGTTCCGATACCAAGTCGTCTAAGACGAAGCTGCG
25 CAGGTTGTTGGAAGTACAAAATGCCGTCTGAAGCGAGCAGCTTACC CGCGCGTCAAT
CAGCTTTTTGTGGTCGCGCTGGATGTCGAGGATGTCGGACATTTTCTTGCTGTTGAAAA
ACTGGGCGGGTCCATACAATGAGGTGCAACCGCCTGCCTTCCCCATATGCCGTCTGAAG
ATATTGGAACACGTCGGCGCGGACGATTTTGTGTGCTTCCGTATCGATGCCGTTCAATTC
AAAATTGCGTTTCGCCCAATCAAGATATGTGTTGGACAAATCGACGGTTTCGCTGGATGC
30 CGCGCCGCGGTCGCGCATAGACGGTGAAGTCGCCGTGTAGGAAAACAGGTTTAAAAA
ACGTTTGGCCCGCGCGCTTTTCGCCGACTTTTTTGGCGGTGTTTCGATGATCAAAAAAAG
CCCCGTATCCAAATACTTATCAAGGTTGACCCAAAACCTTGCGGCCGTTTTTCGGTGATGAC
GAAATCGTCGCCCGCCTTGCCGTTTTCTCGTACTGCTGCAAACCTTTTTGGCGTTTCGCG
GCGTTTGAGGCGGATTTGTTTCGGGCGCAAAACCGGTAACGAAAGCGACGGCTTCCAAGAC
35 TTCGGCAAGCCACGCTTCGTATTCTTCGGGCCGATCAGCCAGCCGGTATCGTATTCCTG
AAGGTGGATTTCGATCGCCGTAACATCGGCGGCAAGGGGAATTGGGGGATGTCGCGGTC
GTAAATGCGCCAGGCTTCGATGCCGTTGCGTTTCGCCATTTTCATAAGGTGTTTGATGTT
TTTGCCCAAGCGGTTGGCAAACGGTGTGATGTCGGTCATTGGTTTTAGGCGGAATAAAGT
GGAAAACGGCAATTTTACTGTAATTAACGCCCGATTGCTTGACCGTTTCGGGCAAACCTT
40 ATACCATCCGTCGCTTATCTTGTACATACGAAGCCATCGCCTTCCAACCTAAACCGCCCTT
ACGGGCGCGTTTTCTTCTGTTGCTTTGATTTTGCAAAGCATATCTGTGCAGGTTGCCGTCG
ATGTAAACCACAAGCAAGCCGCTTGCGACAACCTGTAACCTTCACATCCCCGTATCGTT
ACCCTTCCCTGCTTCAGGCCGCTGTAACCTTTCGGACGCGGGCGTTGTTGTCTTCCAAGG
ATAGCCATGTCTATTAAATTTGCCGATTGAACTTGATAAAAAACATTTGTCCGCGGTC
45 AGCAGCGAGGGTTACGAAAGCCCGACGCCGATTACGGCGCAAGCCATTCCGTTTGCTTTG
GAAGGCCGCGACATCATGGCTTCGGCGCAAACCGGCTCCGGCAAACCGCCGCTTTCTG
TTACCGACTTTGCAAAAACCTGACCAAACGCGAGCGAAAAACCGGGCAAAGCCCGCGTGCT
TTGGTGTGACCCCGACCCGCGAAGTGGCGGCTCAAGTCGAGAAAAACGCGCTGGCGTAT
GCCAAAAATATGCGTTGGTTCCGCACCGTCAGCATCGTCGGCGGCGCGTCTTTCGGCTAC
50 CAAACCGTGCCCTGAGCAAACCGGTCGATCTGATTGTGCGCCACGCCGGCGCTCTGATG

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5 GACCTGATGCAAAGCGGCAAAGTTGATTTTGAACGTTTGGAAAGTGCTGATTTTGGACGAA
 GCCGACCGTATGTTGGATATGGGCTTTATCGACGACATCGAAACCATCGTGGAAGCAACG
 CCGAGCGACCGTCAGACTTTGTTGTTCTCCGCCACTTGGGACGGCGGGTCGGCAAACG
 10 GCGCGCAAACGACCAAGACCCCTGAAATCATCGAAGTCGAACGCGTGGACGATCAAGGC
 AAAATCGAAGAACAACGCTGTACTGCGACGATATGCGCCACAAAAACCGCCTGCTCGAT
 CATATCTTGCGCGATGCCAATATCGATCAATGCGTGATTTTACGTCACCAAAGCCATG
 ACCGAAGTCATTGCGGATGAACGTACGAAAAAGGTTTCGCCGCAAACGCTGCACGGC
 GATATGCCGCAAGGCTGGCGCAACCGCACGCTGATGGATTTGCGTAAAGGCCGCTGCAAA
 ATTTTGGTTGCCACCGATGTGCGCGACGCGGTATCGACGTACCGACCATTACCCACGTT
 15 ATCAACTACGACCTGCCGAAACAGGCGGAAGACTACGTCCACCGCATCGGGCGCACCGGC
 CGCGCAGGCGCGACGGGTATTGCGATTACGTTTGGCGAAGTGAACGAATACGTCAAAGTC
 CACAAAAATCGAAAAATACATTAACCGAAAACTGCCGAACTGACCATCGAAGGCATGGAA
 CCGACCCGCAAAACGCAAATCCGACGGCGGCAAGCCGAAAGGCAAAGGCGGCTGGGGCGAT
 CGTAAATCCGGCGGTTGGCGCGGCGATCATAAACCGAGCAAAGAAGGCTTCGGCGGCAAA
 20 ACGCGCGGCGAAGGTTTCAAGAAAGAAGGCTTTAAGAGAGACGGTTTCAAAAAACCGGC
 GAAGGCTTCAAAGGCAAACGCAAAGCCGCGGATTCTTTTGCAAGGCAAAGGCGAACCCGT
 TACAAAGACCGCTAAGCCCCAACCTGCCGCATAAACCAATGCCGTCTGAAACCGATTTCG
 AGTTTCAGACGGCATTTTTGCAATGTTTCAGCACCGCCCGGCTTTGATACCCAAAGGATT
 AGGCTGTAATAAAAACCTTTTCCGCTTTGGCAACGATTGAAAATTTCCGTAAATTCAAA
 25 TATCTAGATTCCCTTCCTGCACGGGAATGACACGGAAGGGTTTCAGATGCAGGGTGGGCAT
 TCCTGCCCAACCAATCCCGCCCTTGCAACGGTGGGCAAGAATGCTCGCCCTACGGCTTGA
 CTGTTTCGATATGATGCCGTCTGAAAACCCAACGGCGGCATGACAATGCCACCCTGCCAAC
 GCACGTAAATCAGAATTGCCATCCCGACATCAAACGCTTGGAACAAAATGCCGTCTGAA
 AATCAAACGGCAACATAACAATGTCCCTAACAAATGCAAAAATGCCGTCTGAAAGCTCTT
 30 CAGACGGCATTGGCGCGCGGGGTTTACCGCCTCCTGCCGAAACCGCGCATAGCGGGGCGG
 CGGTAATTGGCGGGCGGGCGGTTGTGCGGCGGTAACGCTGCGCCTGCGCCGCTGTTGT
 TTTGACGGAGGCTGCGCGTGTTCAAATCCCTGCTGGTGCAGCGCATTGGGGCGTGCGGAC
 TGATGGTAGGCTGCACGCGCGCGCGGGGACGGGACTGTCTGGTTGCCCTGCCCGTGTG
 AATTTGTTTGGCAGCGCGTTGCCGATAAACGCGCCTGCCGCGCGCGGACCGAGGCTTGC
 35 AGCAGCCAGCTTCCTGTGATTGGTCGTAATATACTGCTGCCCGTCTTTACCGGTAACG
 GGTGCCCCGTTGTTGCCGTTTGCTGTGCTTCGGCAGGAATGGTGTCTTTGACTGCTTCG
 GGAGTCAGTTGGTAACCGTATCGTCTGCCTGCTGTGCGAGCTGCTGTTGCAGGGCTTCA
 ATCTGTTTCTGCTGCTGTTTCGAGCCG

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 320>:

GNMDI61TF gnm_320

CACCTGCACGCACAATTTCGTGTTTCCAACGTTTGGCCGATAAAGGGCATGATTTTCGGAGT
 GTTCGCCGCGATTCCCATCGCAATTTCCTGCAGACCGGCGATTCTTCAATGAAACGAA
 CGCAACGGGTGCA

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 321>:

GNMDI91TR gnm_321

TCGCGCACGATGATGGGGGCGAGTTCTACGGAGATAGGGTTGCCTTCGTAGAACGTTACT
 ATCGCATTGGTCGTCCATGCCGTCAACGATGAAGTTCAACGCGATCGGGACGCTTAAAGA
 45 CGGTTTTGGCATCGCCGTCGTCCCGCTCCGATTCTGGAGTTGGGCAACGGTTCGGGTCT
 GAGCATCAACCTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 322>:

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gnm_322

CAAAAACGTACGTACAGCTAGTTTGCAGACCCGATGTACGTCTTTATGGACGAAGAATT
CAACCAATATGAAATCGAAGTTGACAACATTGGCGATCATTTTAAATTTATCGGGTATAGA
CTATTTCCGGCGAGGACGAAGATATAGATTTCCACGATTGAATACATGGAAGCCAAGTACG
5 TCTATCAACACTATATTAAACACAGCCTTTTATTTTGAGGTTTGGGGTAATTTTAAAC
CGTCATTCTTACGAAAACAGAAAATCAAAAACAGAAATCTCAAATCCCGTCATTCCyGCG
CAGGyGAGAATCTAGACATTCAATGCTAAGGCAATTTCTCGGAAATGACTGAAACTCAAA
AAACTGGATTCCCACCTTTCGTGGGAATGACGGAATGTAGGTTTCGTGCGAATGACGTGGTG
CAGGTTTCCGTATGGATGGATTTCGTATTCCCGCGCAGGCGGGAATCTAGACATTCAATG
10 CTAAGGCAATTTATCGGGAATGACTGAAACTCAAAAACTGGATTCCCACCTTTCGTGGGA
ATGACGCGATTAGAGTTTCAAATTTATTCTAAATAGCTGAAACTCAACGCACTGGATTTC
CCGCTGCGCGGAATGACGAAGTGGAAGTTACCCGAACTTAAACAAGCGAAACCGAA
CGAACTGGATTCCCACCTTTCGTGGGAATGACGGAATGCAGGTTTCGTGGGAATGACGGAAT
GCAGGTTTCGTGGGAATGACGG

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 323>:

GNMDI95TR gnm_323

TCCACACAACGTCAATAATTCCAACACAAAATACGCCAACCGCATTGGTTTGACACGCCA
GCAACCGCTTTTGGCTTCACAACAGTGATATTGTGTTGGCTTTTCCGTTTAAAGATTGTG
20 TGTTAAATGGCGGACAAAGCACCAGGAAGGCGAAGAAATTTATTTTAAACGCAATAACA
GCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGACA
GTCAACCAGCCAGACAGCCACTTATAACAAGGCGAAGACAGCAAAAACTGCCCGAAATG
AGCGAAGGCGACAAATTGCCCGTGGACAACTCTACGGCGAACAACTTTACCACTCCG
CCGCCACGCTACAACGAAGCCACGCTGGTTAAAGCCC

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 324>:

gnm_324

CGCGATAAAGAGCACGTTCCGGTTTCGATTTACTTAGTTAACGGTATCAAATTACAAGGT
CAGGTTGAGTCTTTTCGATCAATACGTTGTTCTCTGAGAAACACTTCCGTCACCCAAATG
30 GTTTACAAACACGCCATTTCCACCATCGTACCGGCACGCTCCGTCAACCTACAACATGAA
AACAGACCCCCAAGCCGCACCGACTTCGACCCCTCGTCCAAGTGGAAACCGTCCAGCAGCCT
GCCGAATAATCCGCACGAAGCATGACGTGTCATATCTTTCAATACCTTACCGGACAACGG
TAAGGTATTTTTATTTTCAGACAGCATTTAAAAATGTTATTGCAAAACATCCTTCCATTC
GCCCATTGCCTTTTGGCGAAGGCACTTCCCGAAGGTGGCAATGCTTTGGACGGCACC GCC
35 GGCAACGGACACGACACCTTTTCCCTCGCACAAACCGCAGGCATCCGGGGGAAAGTGTGG
GCATTGACATCCAGCCGCAAGCCCTGAACAACACCCGATGCCGTCTGCAGGAAGCAGGT
TACAGCAATGTACGGCTCATCTTGGACGGACATGAAACCTGAAGCAATATATTCCAAAG
CCGCTGGATGCAGCCATTTTCAATTTCCGGCTGGCTGCCCGGGGACAAAAGCCTTACC
ACCCGCACGGAACAGCATTGCCGCCCTTCTGCCACCTTATCCCTACTGAAAGAAAAC
40 GGTATGCTTATTGCCGTCTCTATCCGGGACACGAAAACGGCAACAGGAGGCAGAAAGCA
ATCGAAACAATGGGCAAAAACCTGCCTCAAGAACAGTTTGGCGTTTTCGCTTACGGCTTT
ACCAACCGGAAAAACAGCCACCCCTATCTTTTGGTATTTGAAAAACTGCGTCAAAAATAA
CTGTTTGGCGGTAAAATAAGC

45 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 325>:

-730-

gnm_325

TTGGAAGCCTTCTGCAAAGGTCAGGACACGCTTGCGGGCATTGCTGAAGACGAGCCGACC
GGATGCCGGTTCGGTCGTGCTGCTGAACAATACCTGTGTCGCGCTGGCATAACCGAAAGCC
5 TTGGGCGCGCTGCGTGTGCGACAACGCCGTCGTGATTACTTCTCCGCGTTTTACGAGCGTT
CATCAGGTGCGACTCAACCAGTGCATCAAAAAATACGGCGTACAGGGACAATGCGGCTTG
GAAACAGTGTATTGCACATCTTCTTCTTATTACGGCGGAAGTGTGCGCTCTTTGATTCAA
AATCTCAAATAAAACGGAAAATGCCGTCTGAAAGATGTTAGACGGCATTCTATATCGA
CGGTACAGGATTCTTTTCGGATCGGGCAGCAGGCTGTTCAACATAATGCAAGTACGGCGCA
10 CAAGCCCACGCCGGCAAAGCTGAAGCTGCCCAATTTGAGCGTCATGCCGCCGATGCCCGT
GGTCAGTACCGAGCTGACGATGACCAGGTTTTTCGGCAGCATCAAATCGACTTTGGCATC
AATCAGCGTTTTTCACGCCCAAAGAAGCAATCGTGCCGAACAGCAGCAGCATAATGCCGCC
CATTACTGGCATCGGAATGGAAGCCAAAAACGCATTGAATTTGCCGAAAACGCCATGCA
GACGGCAAACACGCCGCCCAAGTCATGATGACGGGTTGCTGTTTTTGTTAATCATCAC
CGCACCCGTTACTTTCGCCGTAGGTGCTAACGGCGGGGCCCGATCAGACCCGCAACGCA
15 TAGCCCCAAACCGTCGCTGCAAGGGTTTTGTCCAAGCCGGGTCTTTCGTATAGTCTTT
CCCCGTACATTGCCGATTGCCATGATGCCGCCGATGTGTTTCGATGGCGGGGGCGACGGC
AACGGGCAGCATAAACAGTGCAGCTGCCAGTTGATCTGAGGCGTTTCAAATGGGGAAC
GGCGAACAGGGGCGCTGTGCAATGCTTGCCGTGTCCACCAGTCCCATCAGCAGTGCCAA
AACATAACCCGAAGCGACACCGATCAAGATGGGAATCAGCTTCATCATCTGCTGCCGAA
20 AACCGATACGATGGCGGTAAACGGCAAAGGTAAAGCCGGAAAGATCAGCGAATCGGTATAG
TCGATGACCTGTTTGGCGTCCGCTGACnCATTTGCCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 326>:

gnm_326

AAAAATTGGGTGGTTTTACCAAATTTAAGGGGAATTTAAACAAATTATTAACGCTTAC
AATTTGCCATTTCGCCATTTCAGGCTGCCCAACTGTTGGGAAGGGCGATCGGTGCGGGCCTC
25 TTCGTATTACGCCAGCTGGCGAAAGGGGGATGTGCTGCAAGGCGATTAAAGTTGGGTAAC
GCCAGGGTTTTCCAGTCACGACGTTGTAAAACGACGCCAGTGAATTGTAATACGACTC
ACTATAGGGCGAATTGGGTACCGGGCCCCCCTmGAGGTGACGGTATCGATAAGCTTGA
30 TATCGAATTCCTGCAGCCCGGGGATCCACTAGTTsTAGAGCGGCCGCCACCGCGGTGGA
GCTACCAGCTTTTGATTACCCTTATAGTGACGGGTTAATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 327>:

gnm_327

TTGAAGAAATATGCAGGGGAGGGTATATGCGGATTTTTACTTTTCAGCTTAATGTGTmTCA
AATCGGGTGTGGGGTATGTATAGTGGATTAAATTTAAACAGTACGGCGTTGCCTCGCCT
TGCCGTACTATTGTACTGTCTGCGGCTTCGTGCGcCTTGTCCTGATTTyTGTTAATCCAC
TATAAAAAGCCGCATCGTGAAAAGATGCGGCTTCAGGTATCGGTTGGATTATTCTTCAGA
35 ACCGGTGTAAAGACGGATGCTGACAGTTTTACGGTTCAGCGCGCCTTTGGTTTTGAATTC
GACATAACCGTCAACTTTGGCGAACAAAGTGTGGTCTTTGCCCATACCTACGTTGTGCGC
40 TGCGTGGAATTTGGTACCGCGTTGGCGTACGATGATGGAACCTGCGGGAATCAGCTCGTT
GCCGTAGGCTTTAACGCCCAAGCGTTTGGCTTCTGAATCGCGACCGTTGCGGGTGCTGCC
GCCTGCTTTTTTACTTGCCATTTGTAATGCTCCTAAGTTTTAAGGTTAGGCGATTGCCAC
GATTTTCGATTTGGGTGAAATTTTGGCGGTGGCCTTGGCGTTTTTGGTAGTGTTGCGGCG
45 GCGCATTTTGAAGATGCGGACTTTTTCGCCACGACCGTGTGCCACTACTTTAGCCGTTAC
TTTTCACCTTCGATAAAAGGTGCGCCAACTTTTACAGATTGCGCGTCAGCAATCATCAA
AACTTCGGTCAGTTCGATTTGGCTGTGAGTTCGGCTGGTATCTGTTCTACTTTCAATTT
TTCCCGACGGAACTTTATACTGTTTGCCGCCGGTTTTTACGACCGGTACATACTCAA
CTCCATAAGGGTTATGGTTAATATCCnGGG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 328>:

gnm_328

5 GTAAGATTACCGTCTGGAAGACTGGGGTCGCCGCCAGCTGGCTTACCCGATTAACAAAA
TCCATAAAGCCCATTTACGTTTTGATGAACATCGAAACCACTCCCGAAGTGGTTGAAGAGC
TGGAAACCGCATTCGCTTCAATGATGCArTATTGCGTCATCTGACCATCAAACCAAAC
ACGCCGTTACCGAAGCATCCCTATGTTGGGTGGTGAAGAGGCTAAGAACCTGTTGAGCG
GTGCGTCTGAAGAAGCGGTGCGCCAAATAATTGGGATTCAATAATCTTGTTTCGCTTGCCG
CGTTAATTGAAAAGGTTTTCCCTATTTCGATATACGCCGTGCCGGAATCCCTGTTTAGATA
10 TTATTTTAAAGCACGAATCGTGGCAGGAGGAAAACGGGCAGCAATGCCTTGTTCCAATTGG
AAATTCGGGCACGGATTTTAGGCAGGCAGGCGGAAGAGTGGCAGTATCGGCAAGGTGTAT
ATGTTTCACGTCGAAGGTTTTTTAGCTCAAAAAAGCAGACGTTCCCTTATGCCGATGCTCA
GGATACAAAATATTCAAGAATATAAAGGTTAAACGACAATGGCTCGTCAATCATTCAAAC
GTAGAAAATTCTGCCGTTTCACGGCTGAAAAATCCAAGAAGTCGATTACAAACAAGTTG
15 ATTAGGCAATTCACCAACGCCAATTGGCTGTTGCCGTAAAACGCGCACGCTTCTGGCTC
TGCTGCCTTACACCGACCAACACAAATAATTTGGAGATTGAATCATGCAAATTATTCTG
TTAGAAAAATCGGCGGTCTGGGCACTTGGGCGACATCGTAACCGTAAAAACGGCTAC
GCCCCGAACCTTTCTAATTCGCCGAGGTAAGGCAAAACGTGCGACCGAAGCGAATATGAAA
20 GAGTTTGAAGCAGCCGCGCAGAACTGGAAGCCAAACAGGCTGAAATTTTGGCAGATGCC
CGAGTCCGTCAGGAAAAATTGGACGGTCAAACCGTTACCGTTGCTCAAAAAGCTGGTGTG
GACGGTCGCCGTTCGGTTCCGTTACCAATGCCGACATTGCTGCTGCAATCGTTGCTGCC
GGCATCGAAGCCGTGAAAGCAAATGTACGCTCGCCGAACGGTCCTCTGAAAGCCGTTGGC
GAGTACGAATGGAAGTGGCTTTGCA
25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 329>:

GNMDN42TR gnm_329

GGAGCGATGTAGCCCCATTCCGGCGAGGACGGTCGTCATACCGGCGTTGCGCCCCGCCTGT
ATATCGCGTTCGCGTCGCGACGTAGAGTGTGTGTGCGGGTCGCGGTGGATTGTCCG
30 CACGCATACAGCATGGGTTTGACGCTGGGCTTGGGCTCGCCGAGGTGTCGCCGCTGACG
ACGACGGCGGGTGGGATGATGAAGCCGAGTTTGGGGACGAGTTTGTCCGTGAAGCGCATG
GGTTTGTGTGGTATGATGCCCCATTTGATGCCGCGTTTTCCGAGTTCGGCGATGAGTTCCG
TTTACGCCGTCGAAGAGGGTGGTGTCTTGGGCGTAGCGGCTGTCGTAATCCGCAAGGGAA
TCCGGTGCGCAATCGGGCATAGTCGGGATGGTCGGGGGTGATGCCGCGCGAGCTTGAT
35 CAGTCTGCCGCGCCGTGGCTGGCTTGGGTGCGGATTCGTCATGCTTTTGCAGGTAG
TCCGTGGCGGGCGAGCAAGGTGTTGAGTGCGCCGCCGAGGTCTAAGGCGGTGTCGGCGAG
CGTGCCATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 330>:

40 gnm_330

ACGAGCCGAGCAACCATTTGnGATATCGACGCGATGAATCCGGCGGCAAGGTTGCCTGA
TAGCAGACGAACACCAGCCGACATCAAGCTGTCGCTTGAGGCGAGTCCGCGCGAATAG
CTGTAGGCGCGCGGAAGAGCGGTGTTTTTGGAGGAATTCGGGATCGCGCGGATTCGCC
AGGCGTATATGGCTGTCTTTGGGCGTGATATCACCTCGGGGTCTTTGGCAAAATCCGGT
45 TGGTCGGCTTCTTTTTTGGCGTCCATCGGCGCACCGCTGTATTTGCGCCGCCGAAAATG
TCGGTTTGCTCTTGAAGCGGCGTCTGTCCCAAACTCGACAAAGTGGCGGATAAGGCGG
ACTGCCTGATAGCTGCCGTTTTTCGCCCACTCCGGTTTCGTCGAGGCTGTTGGCGGCCACC

-732-

CCCGTCCACAAAACCTCGTCGGCAGTTTTGGGATCGGAACTTTGGGGTTGCCCGTGCCG
 TCCCTGAAGCCCAACAGGTTGCGCGCCGCCATCGCGCCGGTTTCGGATTTGGGCTGCCAC
 CCGTCGATACTCCAACGGATAACGGCGGTTTGGACGGTGTGTTTGATGATGTCGCGCAGG
 5 CGGCTTGGCAGGTTTCGGGGGTGAAGGCACAGATTTCAGGCTCAAATCGCCGTCGCACC
 AGCTTTTTTGCAGTTATCGTTGGAGAAGTCGCGCATTTCCCTGCAAATGAATCGGTTTTT
 TGTCTTTGAGTCCGAACCGGCCGTCAAACAGGCTGCTGCCACCCCCACGGTAACGGTCA
 ACCCGTCGGGGTTGAAGGCTTTCGCCAAAATGCCGCTGCCGGCTGGCGGAAGTTGTCTG
 CGCCGTCTTGGTAATCGCCGCCCTTGGTGAGAACTCGATCGGGGCGGT

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 331>:

GNMDO70R gnm_331

AAAAACCAGGTTTGGCATCCTCCAATAAAGAAGCGCGCGGCTTTGCAAACCAGCCCAAG
 GTAAAGGGGAATGGGCAATATTCAACAATAAAGGACAAAGACAGGGAACGCAAATTTATC
 TATAATAAAGCGCGCGGGGTGGAGGCTCTGTCTTTTTTCGACAATACCGATACCCTTGTT
 15 TCCCGACAAAGCGGTACTGCCGTTTTTGGCACAGCCACCTACCTGCCGCCCTACGGCAAG
 GTTTCGGTTTTTGATGCCGACGGGCTGAAAGAGCGCGCAATGCCGTTAATTGGATTTCAT
 ACGACCCACCCAGGGTTGATAGGCTACAGCTACACCAGTGTCGTATGCAGAGACAGCACA
 GGCTGTCCCAAACCTGTGCTATAAAACCCGATTTTCCTTCGACAACACCGGTTTGGCAAA
 AAATGCGGGCAGCCTGGATAGGCACCCGGACCCAAGCCGCGAAAATTCGCCATTACAA
 20 ATTGAAGGATCATCCATGGTTGGGCGTGTCTTTCAATTTGGGCAGCGAGAATACCGTCAA
 AAATGGCAACTCATTCAACAAATTGATATCTTCTTTTAGTGAAGACAATAATAATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 332>:

gnm_332

GCCGGCGCGGAAGAGGCGTTTTCAAAGTTCAAATGGAAACGTTGCCGcTkCAAawAmAG
 CrAkTGTAACCGTCAAAAACGTATAGTGGATTAACAAAAATCAGGACAAGCGACGAAG
 CCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACcTTAGAGAAT
 CGTTCTCTTTGAGCTAAGGCGAGGTAACGCCGTAAGTGGTTTTGTTAATCCACTATAACG
 CAAGCACCGCAAAGCCGCGCCAACCTCTCCCAACCTTTTTTCAGACGGCATTTTCGGTA
 30 ATCTGCTAAAATCGCCGCTTGAGTTCCACAGAAAAATCCGAAAAATGAATATTTTTTA
 CGAAGAGTCCGGCCAATTCAAATCGCCGCCATCATCAAAAAAACGATGCCACCTACCA
 AGTCGATACCCACACGGCAAACGCACCAAAGTGAAGGCGAACAACGTCCTTGCCGAGTT
 TGACGGCGATATGGCGGCGTTTTTGAAAACGCGCAGGCACAGGCGGCGGACATCGACAC
 CGATTTATTGTGGGAAGTATGCGGCGAAGAGGAATTTACCGCCGAAGCCATCGCCGAAGA
 35 ATATTACGGCCATGCGCCGACCAAAACCGAGCTGGCGGCAACTTTGATTGCGCTTTACGC
 CGCGCCGATGTATTTCTACAAAAAGCCAAAGGCGTGTCAAAGCCGCGCCGAAGAAAC
 TTTAAACAAGCACTTGCCGCCATCGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 333>:

40 **gnm_333**

TGGGCAGAGAATTGTGTTTCATGTCTGGCATTGATTTTTCTGTCCATTATCATCGTCGT
 TAAAAGAGTATTTCCATTTTGACGTGGTTTCGTAGAATACTGAATGGGTATACTCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 334>:

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GNMDQ93TF gnm_334

CCCCGTAAGAAGAAGGCAAAAGCGATTTACAGATCAAATGGCAGCAGAATAAACCCTAC
GGTTCAGTATCGGTATAGATGATGCGGGCGGCAAAACGACCGGCAAAATATCAAGGAAATG
TCGCTTTATCGTTGATAACCCCTTTGGGCTTAAGCGATTTGTTTTATGTTTCATATGGAC
5 GCGGTTTGGCGCACAAACGGACTTGACTGATGTGTGGACGACTTAACTGAAAGCGGGT
CCAGAAGTTACAGCGTGCATTATTCGGTGCCCGTAAAAAATGGCTGTTTTCTTTAATC
ACAATGGACATCGTTACCACGAAGCAACCGAAGGCTATTCCGTCAATTACGATTACAACG
GCAAACAATATCAGAGCAGCTGGCCGCCGAGCGCATGCTTTGGCGTAACAGACTTCATA
AAACTTCAGTCGGAATGAnATTATGGACACGCCAACCTATAAATACATCGACGATGCCG
10 AGATCGAAGTACAACGCCGCCGCTCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 335>:

gnm_335

CCTGAAACGCTGGAAGCCAAAATGCTGACCGGCAAATCCGGTTACGATTTGGTCGTGCCG
15 GGCATCGCCTTCTGCGCGCCAAATCGAGGCGGGCGCGTATCAAAAAGTCAACAAAGAC
CTGATTCCCAACTATAAAAACATCGATCCCGAACTCTTGAAAATGCTGGAAACCGCCGAC
CCGGGCAACCACTATGCCGTCCCCTATTTCTCCGGCGTGAAACAGATTGCGATTACGGCG
AAGGGCAAAGAGCTTTTGGGCGGCAAGCTGCCCCGAAAACGGCTGGGATTTGCTGTTCAAA
CCCGAATACACCCACAAGCTGAAATCCTGCGGCATCGCCCTGTGGGACACCCGAGTGAA
20 ATGTTCCCGATTTTGCTGAACTACTTGGGCAAAGACCCCAAAGGCTCGAATCCTGAAGAC
TTGAAGGCGGGCGGGAAGTGTGAACTCTATCCGTCCGGATGTCAAACGTTTCAGCCCG
TCCATCATCGACGAGCTGGCAGCGGGGACATCTGCCTGGCGGCAGGCAACGGCGCGCAT
TTGAACTTGGCGAAAGCACGTTCCGAGGAAGTGAAAACAACGTCCGCATCGAAGTGCTG
ACACCGAAAGGTATGGGCTTCTGGATTGAGTCTTGGCTGATTCCCGCCGATGCGAAAAAC
25 GTCGCCAATGCCACAAAATACATCAACTACACGCTCGACCCCGAAATCGCGGCGAAAAAC
GGCATCGCCGTAACTTTGCCCCCGCCAGCAAACGGCGCGCGAAAAAATGCCTGCCGAG
CTGGTGAACACCCGTTCCATCTTCCCGAACGAGCAGGATATGAAAGACGGTTTCGTGATG
CCGCAAATGAGCACGGATGCGAAAAAATGTCTGTCTGCTGAGCCTGTGGCAGAAAAATCAAAGTC
GGCACCAACTGATTGAAGCATTAAAAATGCCGTCCGAACGATGTTCCGACGGCATTTTA
30 TATTGGATTGAAATAGAAATATTTATATAGTGGATTAACAAAAATCAGGACAAGGCGACA
AAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAG
AATCGTTCTCTTTGAGCTAAGGCGAGCCAACGCCGTACTGGTTTTTGTAAATCCACTATA
CCGTGCTTCCCACGGTCAGGATTTAGATTGCGGACATCTGTGAGAAAAGACAAAAAAC
TTCCGCCGTCAATCCCTACAGGCGAGAATCCGATCCGTTGAAATTCGGTTGTTTTAAATA
35 AATTCTTGACGCTTTGATTTTCTGTTTTTCCGATAACGCCGTAACCTTGAAACGCGAAAG
CGGTAATCCGATCCGTTGGGATTTTGCAACTTCAAATCAATCCGCAAACTGAAATCCCGT
CATTCGCCGCGAGTCGTGAATCCGAACGCGTCCGCACGAAAACCTGCATCCCGTCATTCC
CACGGAAGTGGGAATCTAGGACGTAAAATCTCAAGAAAACGTTTTATCCGATAAGTTTCC
GCACCGACAGACCTGGATTCCCGCCTGCGCGGAATGACGAAATTCGGCGAGCCGTAGG
40 GTGGGCTGTAAGGTCGGCGTCCAGCCCGAAATGTTTGGGTTGCCCGCTTCGGCGCGGAC
TTCAAACAATGGCTTGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 336>:

GNMDS61TR gnm_336

CTTAGATCTCATACCATGTCATTGTGACTTACCCTCCAGGAAGCTTCCTCACTCTGAGAA
45 GGCCCCATTATTTGTTTTTCCAAAGATGCTGACTGGTAAATATTTCTAGGAAAAAATAGA
AATGATTCTACTTTGTTTGTCTATAAATTCATCGTCCTT

-734-

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 337>:

GNMDV66R gnm_337

5 CTTCAGGGTACTTTGAATTTTTTTTCAATATATCTGCCATATGTTTTTGTAGCCGAATT
TTTAGGAATACCAACCAACGCCAGGAGTATAAAAATGATTGAACTTCAACTTCATGAATT
GAAGCTGGTTTTCAGGGGGAGGTCCCTGTAACAGACAATATAGCTGGAAATGTAGCTAATGC
TGCCACAACCAAAGGAGGTCCCACATGGGGGGATTGGTTGCAATACCTGCTGCCGCAGC
GGCAGTTTATTATCTGCCGAAAAATGCTTACGGTGCTGCTGGTGCAAATGGTGTATACAA
10 TGTGACTCGTAATTGGGTAAATGATGCCGTTAATGCACCTCCTTATAACGGAAGACCAAT
CTTTGAGATTGAACATGGATTAACTGCTCCCACAACAAAAGCAGATAAATCAGGGAACGG
CTACACTGACGGTACAGATTACTGCTGATATTTCTCATCGTCCAGACAATCTCTAGGGGT
CGTCTGAAACTTTCTTAACCTCAATTTTATGAATAGACCCAAGCAACCCTTCTTCCGTCC
CGAAGTCGCCGTGCCCCGCAAACCAGCCTTTTTTTTTTTTTTTTTTTTTT

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 338>:

GNMDW68F gnm_338

CCGCCGGATTTTCTCTCTTTTAAATATAGTAAAATTCATGACCCCTATGGGATTTTCAGG
AATATGTCTTTTATCTTCATAAGCCTCGTATTAGGATAGGCAGATGGCATTTTTTTAAC
20 CCCGTAAGTGAGCAATCTTTCTCCATAGTCGTGCTTAACTACACGCATCTTTTCGGAT
AACAATATCGTCCACGCTATCCAACCGTCGCGTAGAAATTGGATAAAGTGCCTTTGTT
TTGCTGGATGTATGGCTCGAGCACCCAGCCTTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 339>:

GNMDZ09R gnm_339

25 TGGAGTACCCGAGAAAGAAATCTGGGCATTGCCATTTCACATATCGCCGCCGGCTTTTCG
CGCTATACCACATAAAGGGCAGGGACGCGGCAAGCAGCCAGTGGAAGGCGGGTGGGGA
TGTCCAGACTTTGGTTTTGTTTTTCATAATCGGTTTCCGGCGGTAGAAATCGGTTTGTTT
TCGAGCCTTATTTAAACGATTGGAGGGGCAATGTTCCCGTTTTTCATCTTCATGCGA
30 GAGCCGCCCGAGATGCTTCAGACGGCATTGCGTTTTCCCATGTGTTCAAAGCCCGTGC
GGAAGATTCGGACATAGGGACTTTCGGCACGCTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 340>:

GNMEB54TFB gnm_340

35 CCTGCCCGGTGCTGGAAGGTTAATTGAAGATGTGAGAGCATCGGATCGAAGCCCCAGTAA
ACGGCGGCCGTAACATAACGGTCCTAAGGTAACGAAATTCCTTGTCGGGTAAGTTCCGA
CCCGACGAATGGCGTAACGATGGCCACACTGTCTCCTCCTGAGACTCAGCGAAGTTGAA
GTGGTTGTGAAGATGCAGTCTACCCGCTGCTAGACGGCAAGACCCGTGAACCTTTACTG
TAGCTTTGCATTGGACTTTGAAGTCACTTGTGTACAGATACGTGGGAGGCTTAGAAGCAG
AGACACCACTCTCTGTGGAGCCGTCCTTGAATACCACCCTGGTGTCTTTGAGGTTCTAA
40 CCCAGACCCGTCATCCGGGTCGGGGACAGTGCAAGGTAGGCATTTGACTGGGGCGGTCT
CCTCTCAAAGCGTAA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 341>:

gnm_341

5 CTCGGTACCCGAGCATTACGAATTCGAGCTCGGTACCCTGCGACAGGGCGGCAATCAGGC
GGTTGCGGCGCGGAAAATTGCCGGCATACGGCCGCGTGCCGATGGGGAACCTGCTGACAA
TCAATCCTTTTTCGGCGATTTCATAGGCAAGGTTTTTGTGACC GGCGGATAAATGCGGT
CTATGCCCGTCCCCACACGGCGATGGTGCCGCTTCTGCCTGCAACGCACCCTGATGGG
CGGCGGTATCGATGCCCGAAGCCATACCCGACACAACGGGAATGCCTTTCCACCCAACG
10 ACTTGCCGAAATCTTTGGCAATCCGCATCGCCTGCGGCGTGGCATGACGGCTGCCGACGA
TGGCGGCGGAAGGTTTGTGAGCAGTTGCACGTTGCCGCGCAAAAAACAAACCGGTGGCG
CGGTGAGCCCTGCGTCAGCATTTCGGGAAAATCTTCATCCTGAAGCAGCATCAGGCGGC
ATCCGTCaCGCATTTCTnCATTCGAATGCCGCTTCTGCCGCTGCCGCGCCAGAGCGCGTT
TTTCCGATTGCGCCAAGCCTCAAGCGCCTGTTGTGCCGTATCAGTGCCGCCAACTGTT
CCGCCGGTGCGGACAAGGC

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 342>:

gnm_342

AAAATCAGAAAAGCCTTGGCGGGCTTTTGGAAAGGCACTGCCCCACCTTAACGACACCATG
CTGCTGTTTACGGGATTGTGGCTGATGAAAATTACCCATTTCTCCCCGTTCAACGCGCCT
20 TGGCTCGGTACAAAAATCCTGCTTCTGCTCGCCTATATCGCATTGGGTATGATGATGATG
CGCGCCCGTCCGCGTTTCGACCAAGTCTACACCGTTTACCTGCTCGCCATGTGTTGCGTC
GCCTGCATCGTTTACCTTGCCAAAACCAAGTCCTGCCTTTCTGAAACACCGTTATGAAC
AACAGACATTTTGCCGTCATCGCCCTGGGCAGTAATCTTGAAAACCTGCCAACAGGTA
CGCGCCGCAATTGGACACGCTGTGCTCCATCCTGACATCCGTCTTAAACAGGCTTCTCTCA
25 CTGTATATGACCGCGCCCGTTCGTTACGACAATCAGCCCGATTTTGTCAATGCCGTCTGC
ACCGTTTCCACCACTCTGGACGGCATTGCCCTGCTTGCCGAACTCAACCGTATCGAGGCT
GATTTTCGGACGCGAACGCAGCTTCCGCAACGCGCCGCGCACATTGGATTGAGCATTATC
GACTTTGACGGCATCTCCAGCGACGACACCCGACTCACCTGCCGCATCCGCGCGCGCAC
GAACGCAGTTTCGTCATCCGCCCTTTGGCAGAAATCCTCCCTGATTTTGTTTTAGGAAAA
30 CACGGAAGGTTTCCGAATTGTCAAAACGGCTGGGCAATCAAGGTATCCGTCTTTTACCG
GACAGGTAATTCCGCAACGCGGATGCCGCTGAAAGCCTTTCAGACGGCATTTTTCTTTG
CCGCCAACACGCGTGCAAAAAATCGCCCTTGGAAAAGGGGGCGCAAAAGGAACACAAA
CCACTACCAAACTTTAAATCTGAAACACTGCCTGCCGCATACTGTATCCGACAGGATAT
AAAGCCCTCACTAAATCGTTTCGAGAAATCCAAACTTCTTCATCGCCGACAGAAAATCTG
35 CCTTCTCCGGTACCAGCTCCAACAGAAACGGTTGAACCGCCGTATGCAGCCTGTCTTA
CACCGCCCCAGCTTTCTGGACAACGCGGACAGGGCGCGTTTGTAGGCATTATCCTTGCAG
TCAAGCTCCCGCGCACTGCCGACCCAGCTCAAACGAAGGTTGCGGCTTTCATCCTCAATC
AGCAAAATCGCTGTTTGAATTCCTCCACCTCGGGCTCGCATGAAAGCGCAATATAATAT
TTGCCGTCGATGTTGACATACGCCGCTTCATGCACG

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 343>:

GNMED25TR gnm_343

45 TAAGTTTCCGTACCGACAGACCTGGATTCCCGCCTGCGCGGGAATGACGAAGCTATCCTT
TTGGCCGAAGGTCAAAAAATCAGCCGTCACAGAGTATTACCTGAATCACGGCGAATGGCCC
GGCAACAACACTTCTGCCGCTGGGAACCTCCTCAACAATCCAAGGGAAATATGTTAAAG
GAATTACAATCCCAACGGGGTCAATAACGGCAAAATGCCTTCAAGCCGGGTTAACAAG
AAATCCAAGGAAAAAACTCCCC

-736-

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 344>:

GNMEE40TR gnm_344

5 AGTGCTTGTGTTGTTTGACCGGTTGCTTTCGGATAATCGTGGGTAATGCGTTCGGCGGC
ATAAGCTAAATCCGCCTGCACATAATACGGGCTGCGGCTGCCGTCTTCACTTGCCGCCTG
CGCTGCGGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGA
GAGAAGAGAAGAGAAGAGAAGGTTTTTTGGGGGCTGGATTCAATTTTCGGCTCCGTATTTCG
GTTTTAACTGATTAAAAAGAAAGATTTTCAATGATGTTGCAGGAGCGGACTATATCACGT
TTGTGGCGATGTTTCAACACAATATAGCGGATGAACAAAAAAGAGAACG

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 345>:

gnm_345

15 ACGGGACCTTTGATGCTGATGCTGCTGGTCGGCACGGGTATTTTGCTGACTGTTTTATTA
AAAGGTTTGCAGTTCACGATGTTGGGTATGCGCTGAAACAGGCGTTTATGCCGCCAAAG
AAGCATAAAAGCGGCGAAGGCCACGAAGGCGATATTCCCATTTGCGGCGTTGATGACC
GCGCTGTCCGCCACCATCGGCACGGGTAACATCGCCGGCGTGGCGACTGCGGTGGTAACC
GGCGGCCCGGGCGCGGTATTTTGATGTGGATGACCGCCATTTTCGGCATGGCCACCAA
TACGGCGAAGGCGTGTTGGCGGTGAAATACCGCGTCAACAATCCAAAGGCGAAATGTCC
20 GGCGGCCCGATGTATTACATCGAAAAGGCTTGGGCAAAAACCTGGAAATGGATGGCCGTC
GCGTTTGCCTGTTCGGCACATTCGCTTCCTTCGGTATCGGCAGCTCGGTGCAGTCCAAC
TCGGTTGCACAGGCGGTGCAACAGCTTCGGTATCGAACCTGCCTATACCGGCATTACG
TTGACCGTTCTGACTGCCGTTGTCGTTTTAGGTGGTATTAAAGGCATCGCCAAAGCCGCT
TCTTTCATCGTGCCTGCTATGGCGGTGTTTTATGTGTTGGGCGGTCTTCCATTATCGCG
ATTAATTCCGATGCACTGATGCCTGCCGTCAAGCTGATTTTCTCCGATGCG

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 346>:

GNMEG32TF gnm_346

30 AAAACGGTAAAAATCAATTCATACTTGAATACGTTCTGCGCCTGCCGGCTGGGAACAGGCG
CACGGATAATGCTTTGCCGAGTGCCTTTTTAATAAACAATTCCGTTTAAAGTAAACCGT
TTCATGAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 347>:

GNMEI01TR gnm_347

35 TACCCGGTTCTTAAAGTTGAAAACGTCTCATTGAGATATGCTGATAATGAGCCATATCTT
TTTGAACACATTAATTTGGAATTTAGAGATAATGAAGCAGTTGTTTAAACAGGACAATCT
GGTCGGGGGAAGTCCACTTTGTAAACATTTTAAACAGGTAGCCTAAAACCTGAACTGGT
ACAGTTAGTATTAATGGGCATGATATATCAAGTTTCTCCATCCTTTATTAGGGGATTG
AGCGGGATTGTTCCGCAAGATGATGTCCTTTTTCAGGTTCTATTGGGGAAAATATTTCA
40 TTTTTTGATGAAAGCCACATATGGAGCTCATTGAACAATGTGCACACGTGGTACACATA
CATGATCCATATACTTAACATGCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 348>:

-737-

gum_348

AAAAGTTGATAAATGGTAGTAGCATATGGTCTCATAATTTCAAGCTTAGAAATTAGTTAA
 AGAATAGGGGCTGTCCTAGATAACTAGCGAAATTCAAATTAAGTTAGAATTATCCnTATG
 AGAAAAAGTCGTCTAAGCCAGTATAAACAAAATAAACTCATTGAGCTATTTGTCACAGGT
 5 GTAACGCAAGAACGGCAGCAGAGTTAGTAGGCGTTAATAAAAAATACCGCAGCGTATTAT
 TTTCATCGTTTACGATTACTTATGTATCAAAACAGTCCGCATTTGGAAATGTTTGATGGC
 GAAGTAGAAGCAGATGAAAGTTATTTTGGCGGACAACGCAAAGGCAACGCGTTCGCGGT
 GCTGCCGGTAAAGTCGCCGTATTCGGTCTTTTGAAGCGAAATGGTAAGGTTTATACGGTT
 ACAGTACCGAATACTCAAACCGCTACTTTATTTCTATTATCCGTGAACAAGTGAAACCT
 10 GACAGCATTTTTTATACGGATTGTTATCGTAGCTATGATGTATTAGATGTGCGCGAATTT
 AGCCATTTTAGCTTCGCTGAAACTTCGTTTTCGTATCAATCACAGCACACATTTTGCCGA
 ACGACAAAACCATATTAATGGAATTGAGAATTTTGAATCAGGCAAACGTCATTTACG
 CAAGTTTAACGGCATTTCCAAAGCGCATTTTGAGCTGTATTTAAAGGAGTGCGAATGGCG
 TTTTAAACAACAGTGAGATAAAAGTTCTTGTTCCATTTTAAACAATTAGTAAATCAAGT
 15 TTGTCCTAGTTATCTAGGACAGCCCTTGTTTTTGTTCGGCGGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 349>:

gum_349

CACATCCGTGCCTGTGTCATTGTCAAAAAATACCGTAAATAGATTGTATATCCTTTTTATC
 20 AACATCATCCTCACTCAAATCACTGCCGATACCGACAGATAACCACGCGTTTGTCTTTC
 AGTTTGGAAACGGCGGGCGCGGAGGTAATCGGCTTATCCAGCGTGCCTTTAAAAATAGTA
 CGTACAGACCATTGGTTCGGATCGTTGTTGCTCAAATCAAAGCGGTACATATCCCGCCG
 CGGTGCGCGGCATAGGCGATATCGACCGTGCCGTCCAAATCTTTATCCACCAACGTGGGG
 GACGAAAGCCCGCCCTTGCCGTGCGGTACGTTGATTGTTGCAATCGGCGTACCGTTGTTG
 25 TTTTCAAATCATAACATACAGCGCGGTTTTATTCTCGCCGTTGTTAATGTCTTTAGTC
 GCATAACCGGAGGCGATGAAGGCGGCGTATTTGCCGTTGTGGGTTTTGCCGATTTGCCG
 GTACCGACGGTGTAGCCTAATTTACGCCATTGTGCTTTTTGACATCAAACATGGAAACG
 CCGGCCGGGTTGCTGTTGTGCGATTTTGCTTAAATCCAAGGCGTATGCGCCTCTGCCGCCA
 AAGCCCATTCGCCCGAACATAAAGAAGTGTTTTTGCTTGTCTTGGTCATCTGTAATGCGG
 30 CGCAAGACAAAGCCCGCTCCACGCCATAGCGGTGCCCCACATAGCCTTTTTCGGCAAAG
 GTGCGCAGCTCTTTGGCAAGGGTGGATTGCGTGTGTTGAATATCCTTTCGCGGGCATCGTG
 CCCTTTCAGACGGCAGCAGCTTTTGATTACCGGCGAAGACGCGCGTGCCGACGTACAGG
 TTTTGGCTGCCGAAAGCTGCGCGGTGCTGACCGGCATCGGCACGGTGTGGCGGACAATC
 CCGGCTCAACGTCCGCGCTTTTCCAATTTGCGCCAACCCGACGATCGTTTTAGACA
 35 GCGCCTGCGCCTGCCCCGAACAGCCATTTGGTTACCGACGGACATCTCCGACCTACA
 TCGCCACACTCGAACGCAACGAAGACAGACTGCACCCCTATCGGGAACACGCACACGTCC
 GCATCCTGATGCCGTCTGAAACGGCAGACAGCAAATCGACCTGCACCACCTGATGCGCC
 TCCTTGCTGACGAAGGTTTCGGCGAAATCATGGTCAAGCAGGCTCCGAATCACATCCG

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 350>:

gum_350

TCAAGGCATTTTTTTTCGATTTTGATAGTCTGCAACTTGAAACAAAACCTACAATATTGT
 CAATATCGGCAATTCCCCATCAAATCCGCCAAATCAAAAATATAAAAAGGGATGTCCT
 45 CGATGGGCATATCGCGTATTACTTGTTCAATCCATAACTTGAATTCATTTAAATCAATAG
 ACTGAGAGAATAAGCATTTAATTGCAAATCCTAAATCATCACTATCCTCTTTTATGATT
 TCCACATAATTATCTTCCTTTGCCGTCAAACGCTCTTTTAGTTACCCGCTTTATATCAA
 AATACCGTCTGAAAGCCGAATATCGTTTACAGCGGCATTTGACTGTTTAAAGCGGGGGC
 AGTTCTACAAACGGAAAGAAATGCTGAAATTTCTGATAAATTCAGGATGTTTCTCTAAA
 GCTTTTAAATGCTTTTTCTTTTGAATAGGCGGATCATAGACATCTATCCCCCTTAAGAAG

-738-

5 GCAATGCCGGTCAAGGCATTTTTTTTGGATTTTGATAGTCTGCAACTTGAAACAAAACCT
 ACAATATTGTCAATATCGGCAATTCCCC_aTCAAAATCCGCCAAATCAAAATATAAAAAG
 GGATGTCCTCGATGGGCATATCGCGTATTACTTGTTCATCCATAACTTGAATTCATTTA
 AATCAATAGACTGAGAGAATAAGCATTTAATTGCAAATCCTAAATCATCACTATCCTCTT
 10 TTATGATTTTCCACATAATTATCTTCTTTGCCGTCAAACGCTCTTTTAGTTACCGCTT
 TATATCAAAAATACCGTCTGAAAGCCGAATATCGTTTCAGACGGCATTTTGACTGTTTAA
 AGCGGGGGCAGTTCTACAAACGGAAAGAAATGCTGAAATTTCTGATAAATTTCAGGATGT
 TTCTCTAAGGCTTTTAATGCTTTTTCTTTGAAATAGGCGGATCATAGACATCTATCCCC
 CTTAAGAAGGCAATGCCGGTCAAGGCATTTTTTTTTCGATTTTGATAGTCTGCAACTTGAA
 15 ACAAACCTACAAATATTGTCAATATCGGCAATTCCCCCATCAAAATCCGCCAAATCAAAA
 ATATAAAAGGGATGTCCTCGATGGGCATATCGCGTATTACTTGTTCATCCATAACTTG
 AATTCAATTTAAATCAATAGACTGAGAGAATAAGCATTTAATTGCAAATCCTAAATCATCA
 CTATCCTCTTTTATGATTTTCCACATAATTATCTTCTTTGCCGTCAAACGCTCTTTTAG
 TTACCGCTTTTATATCAAAAATACCGTCTGAAAGCCGAATATCGTTTCAGACGGCATTTT
 GACTGTTTAAAGCGGGGGCAGTTCTACAAACGGAAAGAAATGCTGAAATTTCTGATAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 351>:

GNMEI43TR gnm_351

20 TACCTCAGGATTGGCATATTGATCCCGATAACCATTTCTCCAACAACCCCGACTTTGTG
 GACTCCTGGCCGCCACATGGGGTTGTTGGCACCGACGAAGCTGAGATTCATCCGGCGATC
 GCTAAGATTCTGTGACGCACGGGTAAAGAAAGGCCAATACGCTGCAGCCTATTCGGGG
 TCAATTTATTAAGCTTCTATCAACCTCCCATCTCGGTTTCGCATCAAACACAGGCTTAG
 CCTTAGGTATACCGCCCCCGATTTACCCACACTGAACAAATCTATAGAGAACTGAACAT
 25 ATTCGCGAGCCTGCTCCGACAGCCCCAACTGCTCAAGGCCTGAACCGCAATCGTCGGTC
 GTTGCTCGCTGGCTTTTTTCCGAAGTTTTTCGTCCAGTAATGACATGATCGTAGGAAG
 ACGTTACACCAACCAAGCGGGCGGCACAGCCTAAGCCGAAAGTCTCGGCACAAGATCCGC
 CTCGGCTACTCCTGAAAGAAACAACCCCCAACTGCCCGAAACGATTTAGCCCCGGGTG
 AGATGTAGCGGTGCAGGATACTTTTGTCTTCCCTATCCAGCTTTTCGTATTACGCCTTCA
 AATAAGAGGCTACTAAATCAGGATGTTTAGTTAGGTAATATAAGGATTCCTTTTTTAAGT
 30 CCTTAAACCTACTGTCAAAGCGTTTGTCTCGGTAATTCGATAATGCGTCCTATATTTT
 GACGACATTCCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 352>:

GNMEI51TR gnm_352

35 TCAATACAGTTTCAAAATGGAAAATGATACGTTCACTTTGGATTTTAGTGGTCTTGTTC
 AGCATTTAACCATGTCACAGAAGCTAATCCGCAAAAAGCTTTTGTGGATTTGGCCGAGAT
 GCTTGCAATATGGCGAATTCTGTTCTTGGTATGAAGGCCGAAGACTAATGACCGATTATGT
 GGAGGAGGCATCACAAGCAGGTAAATTTGAAGATTACCAGAAAGTGTTGGGTGAGGAGAC
 40 CGTTGCATTATTAGCTAAACATCGGGTACGCAAGCACATGATATCCTGCACAAATGTATG
 CTTTGGTCATAATAAAAATGTTTCTTTATATGGCAATCACAGGAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 353>:

GNMEJ36TF gnm_353

45 CCGCGCTTGAAACGTCCGCTTGCAGATACTACAGAAAGAGTGTTCAAACCTGCTCTATG
 AAAGGGAATGTTCAAGTTCTGTGACTTGAATGCAACATCACAAAGAAGTTCCTGAG

-740-

gnm_358

GC GGCAATGCCGTCTGGAAAAGCGGATACCGCCCTGCTGTTGTACGGGTGCGGCTTCTAT
TTGCGCCGTTGCGGCAACTTTGGCAACTTTGGCAACTTTGG

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 359>:

GNMEL61R gnm_359

10 CCCGCAAGTGGCGAGGGGGCAAGCAAAGAGCCGAAAGACAGGGGGGACCGCAGACAGGGG
CGAAAGCAGGAGCGGGGAGGGCAGAAGCCAGGGGGGCGGCAACAACGGAAGCCGAGGGG
GGAAGGAACGGGGGCGAGCAGCGCCGGGGAGCGAAACCGGCAGGGGCAGGGGCAAAAGAA
GCCGGAGAGGAAGACGGGGAGCAGGGCAGAAAAAGAGCAGCAGAGACAGAGCGGCCGAA
GCAGAGACAACGGGGGTGAGTGTGGGACGGACCCAAACCCGGGGGGCGCTGGGGCGACG
AGACGGAAAGGCAGAAGAGGGCCAACCGAAGCAAAAGCACGGGAAACAGCAGCCAGCAAA
GCCGGCGGCGCGAGGGGGGGCCCAAGGCCGACAAGCTCGGAAAGAGAGCCAAAGACAC
AGCGGCAAGAGAAAAAAGGAGGAGGAGAAGCGGGGGGGCCAGGA

- 15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 360>:

GNMEN01TR gnm_360

20 CCAATGCAGGATCCGAGCCGAGTATGCAACCTACACCACAGCTGGCGGATTTGCACAAAT
TGAACCTTGTGATGCTGGGTGATGAAGCGCACCATTAAACGCGCAAACCAAAGGCAAAA
AACAAGGCGAATTAGATTTAGAAAAGGAAATGAACGACCGCACCAGCAATGCCGAAATTG
AACGTAAAGGCTGGGAGCATATGGTTTTGGAATTGTTACTCAATAAAAAATGGCAATCATA
GCCAAAATGTGCTGTTGGAATTTACCGCCACGCTGCCTGAAAATGCCGATGTACAACAAA
AATACGCTGATAAAATCATCACAAAATTTGGCTTAAAGAATTTTGCAAAAAGGTTATA
CCAAAGAAATCAATTTGGTATCCAGTACGCTGGGTAAAGAAAGAGCGAGTGTACACGCTT
25 TATTGTTTGCTTGGTATCGACATCGAATTGCGTTGAAATATGGCATTGCCAATTTCAAGC
CTGTGATGTTGTTTAGAAGTAAGACGATTGATGAATCAAAGCGGATTATCTGGCATT
TAAATTGGGCAGAAAAATGTGCAGGCGGTTGATTTTTCGTTTTTAACACATTTTCAACAA
GCTTGAACGATAGCGATAGCGATAACGCCAACGAACAAGGCAAAACCCGCACTGAACAAG
CCCTAAAATTTATGCAGGAAAAAGGCGTTGAGTTGCACATTTGGCAGATTGGGTAAAC
30 AGA

- The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 361>:

GNMEP25TE72 gnm_361

35 TTCGGACATTCTTAAATTACCCGTGTATCGCTGTAAATCTTAGAGATGGCGGAATATAG
CGGATTAACACAAGGCATTACTGCAATGCTCAGGATTCCGGTACAGGGTCATCGTTGCAC
ATTTAGCCAAACGGCCGTGACCGATTTACGGCGTTTCGGTGCGCCCATGCGGCCCACTT
CGCCGGTAGAGTACGGCGGAAAGTTGTAGTGCAGCATAAAGCGGTGCGTGTATTGCCCGG
ACAGCGCGTCGATGATTTGCTCGTCGCGGAAGTACCCAAAGTTGCAACGGCCAAAGCTT
GGGTTTCGCCACGGGTAAACAATGCAGAACCGTGCGTGCGGCAATACGCTGGTTTGA
40 TGTTACGCGGACGGACGGTGCGGGTGTGCGGCCGTCGATGCGCGGTTGGCCATCCAAAA
TTTGCTGCGGACGACATCGGCTTCCAAGTGTTTG

- The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 362>:

-741-

gnm_362

GCATTGTCTTGTGGCCCTTACTTTTAGCATCTTGTATCGGCGGCAATTTTCGGCGTGCAGC
 CTGTTGTGCAATCAACGCCGACCGGTACCCCGTCACCTTCAAATCTAAGGACGTCCCA
 5 CTCCGCCCCCTGCCGGGTCTTCGGTAGAAACACGCCGGTCAACCGGCCCGCGTCCGGTG
 CGGCAATGCGGCTGCCAAGGCGGAATATTGCTTCTATAAAACAAGACGGTACGGAAATTC
 CCGACAAGCATCAGGCAGAGGAGCATCTGCCGCTTAAAGAGAAGGATATCCTGTTTTAG
 ACGGTACGCTGAAAGAACAGGCTGACAACTTAAAAAGAAAATCAACGAACGGTATTCTG
 ATGTGAGGGTTATCACATCGAAAAAGAAGAAGAAAATATCAATATCAATTTGTCCGTG
 10 CGGGCTATGTGTTTACCAGGGCGGAAGGAAAGGATAATGAAAAAGAAAAGACTTCTGATG
 GTAAGGAGTTTGTAAACCGATTTAGTTATGACGGTTTTGTATATTATTCCGGAGAACGTC
 CTTCCCAATCTTTACCAGCGCGGGGAACGGTGCAATATTCCGGTAACTGGCAATATATGA
 CCGATGCCAAACGTCATCGGACAnGTAAGGCGGTTTycAGTACGGATTGGGTTATACCA
 CATATTATGGtAATGAAATTGGGGCAACTTCTTATGAGGCTAGGGAT

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 363>:

GNMEP68TB22A gnm_363

ACATGGCATTTCGGACTTCATGCGTTTCGTGCGCGGCTTCGGCTTTTCAGACGGCATATTTG
 ACGTTATGATTAACAGTTAACAAGATTTATCACAACGCCGTCAAGAGAC

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 364>:

GNMEP74TR gnm_364

ACTTCAGCCTCCCAAGTAAGTGGCATTACAGGCATGCGCCACCATGCCCAGGTAATTTTT
 TTTTTTTGTATTTTAGTAGAGACGGGTTTTGCCATATTGTCCAGGCTACTCTTGAAGT
 25 CCTGCCCTCAAGTGATCCGCTTACCTCAGCCTCCCAAAGTGCTGGGATTACAGGTGTGAG
 CCACCATGCCAGCCATCCTTGTATTCAACCCTACCACACTTTAAATCTCTGACAGGG
 AGTAAGTATGCAAAACGCTCCCATCCGGTCAGGCGCAGTTCTGCCACGAGGTCAAGATAA
 GCAGGCAGTTTCGCTGCGGGTGCCGAGAAGAAGACAAATGGCGGCCGCACCATTGCCATC
 AGGCGCAGAACTCTACCATGCCGAAGTAGTTTCATCGCGTnCCCTTTTCCCCGGCGGCGC
 30 GGCTTTGGTTTGAACGCGCGTCGTGCTGCCTTTCAGTTCGCTGATATACGCCTGCC
 GGCAGTGGTGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 365>:

gnm_365

CCTGCAGTTTCTCGATATAGCCTTCTGCATCGGTACGGGTATGTAGGTTGTAACCGGGTT
 35 TGTAGAGGCCGTTTTTCTTTATCCAACGGGCATCGCTGTCCTTACTCGGTGTGGTTTGAC
 CGCTGATTTGTCCTTCTTCGTCAACTTCTATGGCCTGACGCTGTTTGCTGCCGGCGGTCT
 GAATAATGGTGGCGTCAACGACGGCAGCGGATGCTTCTCTATTTTAAACCTTTTTCGG
 TCAGTTGGCGGTTAATCAGTTCCAACAGTTTCAGACAGGGTATTGTCTTGCGCCACCGGTT
 GCGGTACGGCATAAGGTGCTGTAATCGGGGATGCTCAGTTCGTCAAAACGGCAAAACAGG
 40 TTGAAATCGATGCGGGTAATGAGGCTGTGTTTCGAGTTCGGGATCGGAGAGGCTGTGCCAT
 TGTCCGAGCAGGACGGCTTTGAACATGGACAGCAGGGGATAGGCAGGACGGCCGCGGTGG
 TCTCTAAGGTAACGGGTTTTTTGACGGTTCAGGTATTGTTTCGATCAGCTGCCAATCAATC
 ACCCGGTCCAACCTTCAATAGCGGGAACCGGTCGATGTGTTTGGCAATCATGGCTTGGGCG
 45 GTTTGyTGgAaAGGTGCTCTTGAGAAATCCCTAAATGTCTTGGTGGGAATTTAGGGGAT
 TTTGGGGAATTTTGCAAGGTCTCTAGATGAGTGAAAAAGAAGTGCAGGCTGCCTAAAAA

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GACAGAAAAAGTCTTTCCGGCAGCCTGCACTTTGGTTTCATTTAGTCAGTAAACCCAGT
AAACGACGGTCTGAAAACGCAGAACGTTACGAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 366>:

5 **GNMEQ90R gnm_366**

GCTTTGCCGTCAAGCGCGCCGCCAGTTGATTTGGTTGCGCGCGTGGTTTGGGAGAAGCTT
GCGGAATACGCGCCAATACGTCGCCTTTACCGATTTCTGACCTTCGCGTACGGTAATCA
CCGACCAACGGGGAATGCCATGGATACCGGAGTAGAAGTACCGGGAATACAGATTTCCA
CGCCGTTTTCTGCCAAGAGTTTACAGTCGGACGCAGCAGTGTCTTCTTGAGAGGAA
10 CGACGTTTACCGTCAATCACCACCAAAGTGGACAAACCGGTTACATCATCGGTTTGTGTTG
GCAACGGTAACGCCCTCTTCCACGTTTTTCGAATTTACCATACTGCGTGTTTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 367>:

GNMEQ91R gnm_367

15 CAAAAGTTTTTCAAATGAAACGGTTGCGGCATCGGGCGGTGTCGACGTTGATTTGGTTCC
CGTGTGGTAGGGGAGGAAGCGGCTTCCCTTCAAACCTGCCTTTGATTGCTGTTGTGCGCGC
GGTGATGGGGAATCGGGAGAGGTGCGCGGTATGTGTGCCGCCGGTATTGTCGATTGTGCC
GCTGTTTTTTCCCGTCTGCCTGATGCGGACAAGGGCTTTTCCGCTCCGCAAACCGGCAAG
20 CATGGGGACGGAGATAAAATCGTCGGGAATACCGTAGATCGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 368>:

GNMEQ92R gnm_368

GAAACGGTTGCGGCATCGGGCGGTGTCCATTTGTATCCGCCGTCCTTCGGGGGCGCGGTT
25 GATGTTGACGCAGATTCCGCTGCGTTTTGACCGATGATGTTGCGCGGTGATGGGGAATCG
GGAGAGGTGCGCGGTATGTGTGCCGCCGGTATTGTCGATTGTGCCGCTGTTTTTTCCCGT
CTGCCTGATGCGGACAAGGGCTTTTCCGCTCCGCAAACCGGCAGGCATGGGGACGGAGAT
AAAATCGTCGGGAATACCGTAAATCGGGAAGCGGGCTTGTGCCGTCGCCCTGTCGTCGCC
C

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 369>:

gnm_369

CATCGGGCGGTGTCCATTTGTATCCGCCGTCCTTCGGGGGCGCGGTTGATGTTGACGCAG
ATTCCGCTGTGTTTGCCCATTTATGTTCCGCTGCGGGATAAGCAACATTTATGAGCGGCTA
35 AAAATGGGACGCCGGTATTCTCGATTGTACCGCTGTTTTTTCCCGTCTGCCTGATGCGGA
CAAGGGCTTTTCCGCTCCGCAAACCGGCAAGCAGGGGACGGAGATAAAATCGTCGGGAA
TACCGTAAATCGGGAAGCGGGCTTGTGCCGTCGCCCTGTCGTCGCCCTTCAGCACCGGTT
CGTAATAGCCGGTAACCGTACCGTCAAGGCTTCCGTTGCCTGCAACCTGCCACGGCGTGA
AATAGCGTTCAAAAACTGTTTTG

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 370>:

-743-

GNMER68TR gnm_370

CACTGTGCCGCCGCTTTGCCCGTCGGTGCGGCAAGCGCGATGTTGGGAAGATTTTCGTCT
TCACCGCAAATCAGCGCCAGCAGTTTGGCAACCGTTGTCGTTTTGCCCGTTCGCCGGCCCC
CCGGTAATCACCATAAAAGACTGCAACAGTGCCAAGGCGGCGGCATCGCGCTGCCCTTCG
5 CTGCCCCGTGCCTTGAAACCATTTTGCAGAGTTTTGCCTCGCGCCTGCCGCGTCGGGGGCG
GATGTGCCGGCTGCCGCCAAGCGTTTATCTCGGCAGCCAAATCGTATTCCAACAGCCAC
ATCCTGCCCAAAAACAGCCTTCTGCCTTCCAnAATCAAAGGCGGCGGCGATGTTCCGACA
ACnGGTGCGAGTGCCGACAGCGCTCAGCCTCGCCACCGCTCAAACGGATATTGAACTTT
TCTCCACTGCGGTCTACGCTGCGACTGTGATAATGCCTTTTTGAGCGTCTTTTTC

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 371>:

GNMER69TR gnm_371

CAGGCAGGTTCCGGTCGGTTGCAGCCACTTCAACGACTCCGGCTTCTGGCTGGTCGGCCGT
CTCTTGGACATGGACGTACCGACCACGCTGAAAACCTGGACGGTCAACCAAACCTCATC
15 GCACTCATCGGCTTTGCCTTGTCGCACTGCTGTTGCCCATCGTCTGACAGACGGAAAGG
ATAGTAAATGACTACGCATTTTGTGCTTATGGGCGTATGCGGCTGCGGCAAGACCACCGC
CGCGCTGTCCCTGCAGAAACACCTCGGTCAATGTCCCTATGCCGAAGCGGACGAGTTCCA
CACCCAAGCCAACCGCGACAAGATGGGCGCGGGTATTCCGCTGACCGATGAAGACCGCTA
TCCGTGGTTGGGCAATCTGCGCGACTGGATGACGCAACAGGCGCAAAACGGTGCGAACCA
20 CACCATCGTAACTGTTCCGCCGTACGAATGACCGTTTTTGCAATGCCTGAAACAGGCG
TTCGGTGCAGTTTGCAAGCACTTCGTGCGCGGAACCCGCATAGTGTCCAGAAAACGGAT
TGCCGCCCTTGCCGCCGCTTGGGCAAATTCATCTGTCTGCCGTTCCATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 372>:

GNMER70TR gnm_372

ACTGGAAAGTGCGCATCGAAGATGCCATTGCCGCCGACGAAGTGTTTCGTTACGCTGATGG
GCGACGAGGTCGAGCCGCGCTAGCCTTTATCGAACAACAACGCGCTGATTGCCCAAAA
TATCGACGCATAAGTGCCGTTTTAAAAAAGGAGACGGGCATCGTGCCGCGTCTCCTTTTT
GGTTGGTCAAACGGAACCTGTGCCGTCTGAAAAACCGTCGGAGCAAAATATGATCAGCAT
30 TTTGATATTTTCAAATCGGTATCGGGCCTTCCAGTTCGCATACGGTCGGCCCGATGAA
GGCAGCCGCCGCTTTGCGGCAGGTTTGGATGCACAGGCTGTTGCGCATCGTCATCGACAT
TTACGGCTCGCTCGCACTGACCGGATACGGACACGGTACATTTGACGCGCTGACAAACGC
GGCTACCGCGACATTCTGCGCGGAGCCGAAGGCAAAGCTGCCTTCATCCACCTCAGTCCG
CCGCAAGACATCAACCTCGAGCGCATGATGTCGCGCAGAGGACATTACATGAAAGCAGGG
35 ATGCTCGAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 373>:

GNMER71TR gnm_373

CGGCATGCGGATTGAACATGATGATGTCGCGGTCTTTAAACGTACCTGGTTCGCCTTCGT
40 CGGTGTTGCAAACACATATTTTTCGCCCGGAAAGAACGGGGCATAAAGCTCCATTCA
AACCGGTCGGGAAGCCGACCGCCGCGCCCGCAAACCGGAGGTTTTGACTTCGTCAA
TCACATCGGTTTGGCAGATGTTTTCGGACAGAATTTTACGAGGGCGGTATAGCCGCCGC
GTTTGACGTATTCGTCCAATGTCCAGCAATCGGGATTGGCGGTATCCACTTGGTCAAAAA
TCACGCCTGATTGGTAAATAGCCATTTTTGGTGTGCCTGTTGTTTTCGTATCGGTTGCG
45 GTCGCTGTTTTAGACGACCTTAAGATGCTTTGTGTACCGGCTTGTAACGTCGTCTGAAA

-744-

TAAAATCTAGTTTATCAAATCGCTCGGTTTGAAGGCAGCCTGCCGCACGACATCCCGCT
 TGCCGGCATTCCCGAACGCCTCGAACGCATCCGCACGACGACATCCTCCGGCTCAACGG
 GCAAGAAATCGGCTTCATCCCCGA

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 374>:

GNMER72TR gnm_374

CGAAAGCGGGAATGCCGAATCCGTCGCGCGGAAACCTGCATCCCGTCATTCCCGCGAAA
 GAGGGAATCTAGAAACGCAAAGCTGCAAGAGTTTATCGGAAATGACCGAAACTCAACGAA
 CCTGGATTCCCGCTTTCGCGGGAATGACGGGGGTTTGGCGGGAATGACGAGGGTTTGGGA
 10 TTTCTGTTTTTGAATTTCTGTTTTGTGAGAATGGCAAGATTTTCGGTCTTGTATGGAT
 AACGAGATTTTAGATGGCGGGAATTTGTGCGGAAACAGCAATCTGAGACCTTTGCAAAA
 ATAATCTGTTAACGAAATTTGACGCATAAAAAATGCGCCAAAAAATTTCAATTGCCTAAA
 ACCTTCCTAATATTGAGCAAAAAGTAGGAGAAATCAGAAAAGTTTGCACGATATTTTCA
 GACGACCTTTAATCGTTTTTGTGATCTCGnACACTTGCTTGTCTGTCGTCATTCCCGC
 15 CAnGCGGGAATCCATCCTCAATGGTAAGCAATGTCTTATTAA

- The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 375>:

GNMER73TR gnm_375

CGGCAATACCGATAACGGTCAAATCCACATAACGGTTGTTGGCAAATGCTTGGCGCACCA
 20 TCAAATGCGCCAGCGAGCCTTGTCCGAACAAATCGGCCGCTCGGCATCGCTAAATAGTT
 GCACCGGCTCTAAGGCGGGCTGTATGCCCGCGGTGAGCATGGGTGCAACCATCAATACCT
 TTTGCGGATTTTGGCGCAAACCTTGTACGGCATTGCGGGTGTAAATTCATATACTGCC
 CGGGCACGCGGATGCTGCCCGGAATCGTGTCAAATCAATATGGGGCATCATTACTCTCC
 CTTAGTATTGCGGGTTTTGGTATTTGGGGCGGCATCCTCAACCACCACCAAATCGCCGTC
 25 ATCAATCATGCGGCGGTAATACAGGCTGTTGCCGTCCAACCTCCACCGGCTCTTGGCCGAT
 ATATTCGTGCGGGTTGTGTTTTTGAAGATGAGATTGAGCATAAAATTTAGTAACCTAT
 GTTATTGCAAGGTCTCAATCTTTACCGTCATTCCCACGAAAGTGGGAATCTAGAAACGC
 AAGTTGCAAGAATTTATCGGAAATGACCGAGACTCAACGAACCT

- 30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 376>:

gnm_376

GGGCGTTGATTGCGATTGTAGGGTTGTAGGCTGGAAAAGTTACGGCATTTTTAAAGTTT
 ACAGCAwAGCCACAGACAGCCGATTGAGCAGGAAGCGCAAAAAGAAAGCGTTGTGCAGA
 CGATGACGGAGCAGCCTGCATCATCAGAGGAAATGCCTTTAAAAAATTCAGACAATTTGA
 35 AACCTGAAGACTTTGTGCCGACTTTACCCGAAAAGCCCGAAAGCAAGCCTATTTATAACA
 CAGTCCGACAAGTAAAAACCTTTGAGCAAATCGCCGGATGTATAGACGGCGGAAAATCAG
 ATTGCACATGCTATTCAAATCAAGGAACACCCTTGAAAGAAATAACAAAGATAATGTGTA
 AAGAATATGTGAAAAACGGGTTCCTTTCAATCCTTATAAGGACGAACAGCAAAGGACGG
 AACAGGTGGAACAGTCCGCGAAAGCGGACAAGCCGCAAGTTCTCGTAATGGGCGGAAAGC
 40 CGTAGCAAAATCTCATGTACGACAACCTGAAGAGCGCGGAAAACCGTTTGAAGGAATTGGC
 GCGGGAGTCGTAAAGCAGAAAGTTCAATCCCTACCCCTCAGGATGGCTTGAGCTGAGTGA
 AGGGGGTTAATTGCTAGAAATGGCTGTTTTTTTAAAGTGTCTCAGTCTGGAATCGCTTCG
 TTCGGGGTTGTAGGTGCAGGAAAATATGGCAGAAAAAAGGAAACGGGGGAAGCTTTGTA
 AAGATTGGGCGCGCTTTTTACCCAATCTTTATGAATACCCCTTTTCCTTTTTTATGAAC
 45 TGTTTTTCAGTACCGGTAACCTCTCGAACGGAGTGATTGAGACTGAGATACGCCCATGA
 AAATCAGACATTGCGGTCGCATCAGAAACCTTTACCAAGACCTGCGACCCCAATCTACGG

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CAACGGCGACAATATGCCCCGATGAGAACTGCTGCCGTTGTTTCGACAAATCAATTTGCAG
CAAGGCAAGCATTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 377>:

5 **GNMER76TR gnm_377**

CCGCCGAAGCAATCGAGGCGGCGTGGATATTGTTGGTAATCACCCCTCAGGCTGCCGCGCC
GCCTGACCAGCTCCGACACCACGGCCTCCATCGTCGTGCCGATACTGACAAACAGCGACG
AACCGTCGGGGATGTGTTCCGCAATCAGCCGGGCAATGGCGTTTTTTTCGTTTTGACACC
GGGTTTGGCGGTGCGGCGGCGAGGCCCTCCGGCAAGTTCCGCCCCAAGATGCGCCGCCGT
10 GATGGCGTTTCAGGCTGCCGACCTCCTCCAACCTCGCGGATGTCGCGGCGTATCGTCTGCG
GGGTAACGTCCAATGCGGCGGCAAGCTCGTCCACCGACATAAACTGATGCCGGCGGACAA
GGCTTAAATCTCTCCGTGCCTTTGGATTTTCGGCTTCATCGTTTTCTGAAAATCAGATA
CGGCAAGGCGGATAAGCTTCAAGCCCTGAATGAGTAGATCAGCCCATTGAGGGCTTGCGC
TTTGA

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 378>:

GNMER80TR gnm_378

AAATCCCGTTTATTCCCACAAAACAGAAAATCAAAAACAGCAACCTGAAATCCCGTCTTT
CCCGCGCAGGCGGTAATCTGAACACGTCCGTAGTGAAACCTATATCCCGTCATTGCGACG
20 AAAGTGGGAATCCAGGATGCAGGGAACCGTTTTATCCGATAAGTTTCCGCACCGAAAG
GTCTAGATTCCCGCTTTCGCGGGAATGACGGCGGAGGGTTTTAGTTTTCTCGATAAATG
CACATCATCCAAAGTCCCGTTATTCCCACAAAACAGAAAATCAAAAACAACATCTGAA
ATTCCGTCCTTCCCGCCTGTGCGGGAATCCGGCTTGTTTCGGTTTCGGTTCTTTTCTCGT
TTCGGGTGATTTCTAAACCGTCATTCCCGCGCAGGCGGGAATCTAGGTAGGCATACGGCT
25 TTGTTCCGCAACCATTTGGGCCCCACGCCGAAAACTCGCCACCCTGCGCGAGCAGCTC
GGTCTGTTGGGGCTTCAACTTGGCGGCGGCGACAACCCGTCGCCGAnnAGATATGCCGCG
CTTGTCGAACATTCAAAGGCAGACTGATGCCGAATTGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 379>:

30 **GNMER81TR gnm_379**

CGCCCTTTGAATTTGCCCCATAATGCAGCCTTGCCCAAGACCAATGCCGCATTCTGGTT
CAGATTCACATTGCCGTTAATCTGTGTCGCTCCAAAGCTGTTTAAAGCCTTATCGGATAA
GTTGCCTGTGTTGCAGGTAACGTAACCGGTATAGTCCGAGCGCACGCAAACCTCATCGCC
GTTTTTGTAACCCAAATTTACTTTGGCGTTGTCTGTGCGGTGATGTTGGCGGTGATGTC
35 GGATACATTTCTGCCGGAAGAGAATGATGCGGATTGATTAACCGCAATTTCTGTGGCTTT
GAATGTGCGGTTTATCCAGTCGTCTTCAAATACGACTTCATTGTTTTTGGAGAAATGTGC
GTCTTTTCGGGTGAAGATTTGTTCAAAAATCTCTGCGTGTGGTGTGGACGACCTGA
TAACAAGACATTGCCTTGATCTTTAAGCTTCGGTTTTCTTGATAAATCTTGCCGCATT
AAAATTCTAGATTGCGCCTTTCGCGGGAATGACGGCGGAGGGTTTTTGTGTTTCCCGATA
40 AATGCACATCATCCAAAGTCCCGTTATTCCCACAAAACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 380>:

-746-

GNMER87TR gnm_380

CAACAACCTTCAGCGCCTGCATTATAGGCAGCATCAACCATTTCAAAAGCTGTTTTTAAAG
AGCCTTCATGATTGATGCCGATTTACAGATAATCAATGGTTCGTGGTTGTAACCTACTG
AACGATTACCAATTTTAAATTCGTTGTTGTTTGCATTTAGCTTTCCTTGTGATTAAGAA
5 TGTTCCTGCCTGTTGTAAATCAAGCTCAGTATCAATATCGATAGAGTCTTGATGAGACA
TAATATAAGTTTGGTTGGGGCGATAAAAAACAATTATTTGCAATTAGTGAAGCAGTAT
CATTAAATGTAAATTGCACCATTAGGCCTAAATGCCTGAGGTAATTGTTGGCGAGGCTGCT
CCAAATCGCTTAGATGGCGCATGGGGGCATATTCGCCATTATTGATTTGAAGCAAGGTTT
TTAGTGGATGATGCTCCACAAATACGCACTTGCCTGCCTTGTGATAATGTTGTCGTGAA
10 TATCGGAATAATTGACATAGTTGAGCATAATGCCCTGATCGCGGCTGCCGACGGCGATAT
TGTCGAATACTTTGAGCCGCTCGGAAAACATCAGCACATAGCCCATATTGTTGCCACCG
AAATATTGCCGCTGATTCGCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 381>:

GNMER88TR gnm_381

CACGGATGACGCGGTACGGATTTCCCGGGTGGCTTCTTCATAGATTAAATTGCCCGCCG
CGCCGGCAGTGGAGTCCAATACATCGACCAAAGGCACGCCGCGCAATCAGCGTCGCCG
TCGTCGTGCCCCAGCGGGCAATCGTTCCTTTGCGGACAATGTCTCCGAAAATCGGCATAC
GCAGCAGTATGGCATCCATACGCCGTTGGATTTAATCGAACGCGCCTTCAATTTAAGGA
20 AGCCGTATATGGCAAAGCCAGTGGATCAGCACCATCCAGCCGTATGAGACGAAAAAGT
CGGACATATCCATCACTGTTTGGGTCAGTGCGGGAAGCTCCGCGCCCATATTGGCGTAAA
CTTCTTTAAAGCGGGCAGTACGAAAATCATCATCACGAATACCAAACCGATTGGGCATG
CAGAGACAACGGATCCTTTTATTTTCTCATCAAATAGAGAAAACTTCACGAATATGAGC
CCCTGTGCGTAATGGACTGGTTGGTTGTAATAAGGTTACTGTGCCGGAATTAC

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 382>:

GNMER91TR gnm_382

CACGAAGCCCGCGCGGAACGCGTCTGCCACAAACAGCATACGTTCCGGGCGGGGTTCGC
CAGTTCGCGGGCGGATTTCCGCTTTGTCTTCACTGCGCGGATTGAAGCCGCACAAGCCTGT
30 TTCCAAGCCGCGCAGGGCTTTTGGAACTTTCTTGAATCGTGGGCCCCATCGCCATCAC
TTCGCCCACCGATTTATCTGCGTGGTCAGGCGGTCTGCTGCGGCAGGGAATTTTCAA
CGCGAAACGCGGGATTTTGGTAACCACATAGTCGATGGAAGGCTCGAACGACGCGGGGT
TTTGCCGCGCGGTGATGTGCTTGGCAACTCGTCCAGCGTAAAGCCGACCGCCAGCTTCGC
CGCCACCTTCGCAATCGGGAACCCGTTGCTTTGGAAGCCAACGCGGAAGAACGGCTCAC
35 GCGCGGGTTTCATCTCAATCACAACCGGTTcGATTGCCTGCGCCCCCGCCTTGCCGCTGA
TGAATCGTTTCGGCAGGCATTGATTCCTTTTCAAATACCGATGCCGTTTGAAAGATGTT
CAGACGGTATCTTCCGAACAGACAGATGAATATGGTTTCCAAACTGGACAAATACTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 383>:

GNMER94TR gnm_383

CACTACGTTCAATTTCCGCATTGCTGGTGCGGTCGTTCAATTCCTTTTCTAAATCTAATT
CGCCTTGTTTTTTGCTTTGGTTTGGCGGTTTAAATGGTGCGCTTCATCAGCCAGCATCA
CAAGGTTCAATTTGTGCAATCCGCCAATGTGGTTTGATTTTCCGCGGGGTGCGAATAT
CGTTATACAGCTTTTGAATGCTGGTAAATTTAATTTCAATGCCGCTGAATGTGGGCTAA
45 ATGTCTCCACTTTGCGAATAGGAATTACCGTATCGCCCTGCAAAATCTTCTCGGTAAATA

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AAAATTTTGCCTGCGTCGGATCGGTAAAATTAATTTCCGTTTTATCCACGATATTGTTTT
GATTCACAAAAACAGAAAATGCCGATAACCTTTTTCAAATAATACAAACGCACCCCTGC
TGATGAACGATTTGGACAGCTTGGATATTACCGGGCCGA

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 384>:

GNMER95TR gnm_384

AGCGGCACGGTTTGAAGCGGCCAGCCTATGCCGACTGTCGGGTCGTTCCATATTTAAACC
TGTTCCGCTTCAGGCTTGTAAATAGTCCGTGCATTTATAGACGAACTCGGCTTCATCGCTC
AGTACATAGAAGCCGTGTGCGAGGCCTTCGGGTACCCACAGTTGGCGTTTGTCTCTGCG
10 GACAGAATTTGCCTACCCATTTGCCGAAAGTGGGGAGTCTTACGCATATCGACGGCC
ACGTGCAATACTTCGCCGACAACCACGCGTACGAGTTTGCCTTGTGTGTTTTCACTTTGA
TAGTGCAGGCCGCGCAATACGCCTTTGCCGATTTGGAGTGGTTTTCTGCACGAAGGTG
CGTTCCGAGACTTGGGTTTTAGACCACTCGTCGCGGAAGGTTCCATAAAAAAGCCGCGC
GCGTCGCCGAAGATCAACGCCGCCATCATCATCGTTTTGCCAGCACCTGTTGCCATATTG
15 AACAGCAAATGCGTTGGCTTATTTTTTAAATCAGGGAAATCGTCTAGCTTTGAAGTGGG
TCAAAAATCAAAAAGTTTTCAAGGGCAGATTTnTGCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 385>:

GNMER96TR gnm_385

CGGCTTCGACCGCGCCGGTGTGGTCGGGATGTGCGGACAGATCGACTTTGTGTTTTTCGC
CGTTTACTTTGAATGTGATGTAGGCATCGGGCAGGTTGAGTTTTTCGGCAAGGCAGCTGA
GCAGGACTTCGCCGCTGCCGTTATCCAGGACCGCGCCTTTGAGGGACGAGCTGCCGAGT
TCAAAACCAAGATCAATTTTTGGGACATTTTCTTACTCCGGAAAGTTTCAGACGGCATTG
GAATCGGACACGGATACTAACCGGATTCTGTGCCGAATCCGTTTTGCCTTCTGGGCGGGA
25 AAGTAGTGGGGCCGTCTGAAAAGGTTGATAnAAGAACAGGCTATTCTAGCAnAAATCTTT
GCAATTGCTTGGCTTAATCGGGCGTTTGCCTGAAAATGCGGGAAGTCACTTGAnGCTCAA
GCAGTTTTTACGTGAGGAATGGCGGTATCAATGATGTTTCATCTTTTTATCTTTCATCTAA
GGGCGTCTGAAA

- 30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 386>:

gnm_386

AATTCAAGAATCAATAGGAAGGTTAAAAAAGGATAAACTTCTTTTATAATTTCTCATCG
TCTTTCAATTATTCGTGATGCAACATTAATAATGGTTATTAATGATGGTAAAGTACTTGA
AATGGGTAATCATGATCAGCTGATGAAACAAAATGGATTTTATGCACGTTTAAACAATC
35 TTCGGTTCGTTAATAAATTCTAATGACTGTTGCTGAAATTAAAAAACTTGCATTAAATAA
TCAGGTATTTAATGAAGCAAAAGCGCTTTTAGAAAAAGGTAATGTTATTTTCCGGGTAC
CGAGCTCGAATTCGTAATCATGGTCATAGCTGTTTCTGTGTGAAATTGTTATCCGCTCA
CAATTCACACACAACATACGAGCCGGAAGCATAAAGTGTAAGCCCTGGGGTGCTAATGAG
TGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCCGCTTTCCAGTCGGGAAACCTGT
40 CGTGCCAGCTGCATTAATGAATCGGCCAACGCGCGGGGAgAgcGgTTTGCCTATTGGGCG
CTCTTCCGCTTCTCGCTCACTGACTCGCTGCGCTCGGTGCTTCCGCTGCGGCGAGCGGT
ATCAGCTCACTCAAAGCGGTAATACGGTTATCCACAGAATCAnGGGATAACGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 387>:

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GNMES45TR gnm_387

5 GCGGTCGCGCCCAAACAGCCCATTTACCTTCGTCTTTTTCATTTTGTCTTTTCTCCAA
TAAGCCCATTTTCCATCATCTCGATTTTGCCCAAAGTAAAAACGGTGGCGGCTGATTGG
GCGCAAACGCCCAATGTACAACTTAATCGCCCAAAATTTATGCCAAAAACGCAACTT
TAAACACGTACATTGGGAGGTCGCGCCCAATCAGCCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 388>:

GNMES47TR gnm_388

10 CGCAAAAAGCTAGCGCACGGCGCTGTTTCTGCGGGTCGATATCGAGCGGCCGAGCCTAA
GCTTGACAGGAATATTGGCCTTAAGTGACAGCATCGGCAAATCGTTGACAGCCCATAGGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 389>:

GNMES52TR gnm_389

15 TCCAGCTCGGTAGCAATACGAATTTCGAGCTCGGTACCAGGTTACAGGAGAAACAGATTTA
AGAGGTTCTAATATTACAGCCGTTAAAACTTGGTTGTGCGCCACCACCAAAGGCAAGTTG
AATATCGAAGCCGTAAACAACATTCAGCAATTATTTTCTACACAAAAGCGGCTGAA
CTCAACCAAAAATCCAAAGAATTGGAACAGCAGATTGCGCAGTTGAAAAAAGCTCGCCT
AAAAGCAAGCTGATTCCAACCTGCAAGAAGAACGCGACCGTCTCGCTTCTATATTCAA
20 GCCATCAACAAGGAAGTTAAAGGTAAAAAACCCAAAGGCAAAGAATACCTGCAAGCCAAG
CTTTCTGCACAAAATAATGACTTGAATTCCGCACAAGGCAATCAAATAACCGGTTCCGAT
ATTACGGCTTCCAAAAAAGTGAACCTTCACGCCGAGGCGTATTGCCAAAGGCAGCAGAT
TCAGAGGCGGCTGCTATTCTGATTGACGGCATAACCGACCAATATGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 390>:

GNMET50TR gnm_390

25 TGAGCAATTTAATTGCCGCTCGGTACCCTAACATATTGCCGCCAAGCGGTATGGAAGCGG
AAATAATGGTAGGTGGGCTTCAGACGGCATCCGCCCTCCCGTCATTCCCGCGTAAGCGG
GCATCCAGACCTTGGGATAGCGGCAATATTCAAAGGTTATAAAAGACCCGTCATTCCCGC
GCAGGCGGGAATCCAGACCTTGGGATAGCGGCAATATTCAAAGGTTATCTGAAAATTTAG
30 AGGTTCTAGATTCCCGCTTTCGCGGGAATGACGAAAAGTTGCGGGAATCCAGAACGTCGG
GCAACGGCAATATTCAAAGCCGTCTGAAAATTTAAAGTTCTAGATTCCCGCTTTCGCG
GGAATGAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 391>:

GNMET92TF gnm_391

35 CCGTCAAATAGGACTGCAGTGAAAGTCATTTTGCGCCCTCCTTATTTTCCAACGCAACG
GTGTGGCTGCCGTCGAGCGTGATGTCTTTGCCGTACACCTGCAAATCGAGCGACTCGCCT
TTGAGCAGAGTGAAAGACGACGTTTCTTTGCCGACGGCGACTTTAATCAGACGGCCGCGG
TAGTTGATGTGGAAGGCGTAGCCTGTCCACGCACTCGGCAGGAACGGTGCGAAGCTGAGT
40 TTGCCGCCCCAGGTTTTTCAATTTGGGCGAAACCTTGACGATGGCGAGCCAAGAGCCGGTC
ATGGAGGGGATGTGCAGGCGTCTCGGTGGCGTTGTTGTAATTGGCCAAGTCCAAGCGG
GCGGTGCGCTGGGACATTTCCACGGCTTTTTCGTCTTGCCCAATTGCGGGGCGAGAATA

GAGTGAATACAAGGCGACAGCGAGCTTTCATGCACGGTCAACGGTTCGTAGAAGTCGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 392>:

gnm_392

5 GCACAACTTAATTATGTTGCCTGAAACATCATATAAAAGATAATAAAAGGTACGCAGCCA
TGAATTACGCAAAAGAAATCAATGCGTTAAATAACAGCCTTCCGATTTGAAAGGCGACA
TCAACGTTTCATTTCGAATTTTCCCGCCGAAAAACGAACAAATGGAAACCATGCTGTGGG
ATTCCATCCATCGCCTGCAAACCTTGCAACCCGAAATTTGTTCCGTAACCTACGGTGCAA
ACTCAGGCGAGCGCGACCGCACACACGGCATCGTCAAACGCATCAAACAGGAAACCGGCT
10 TGGAGCCGCGCCTCACCTGACCGGTATCGACGCTTCTCCGACGAATTGCGCCAAATTG
CCAAAGATTATTGGGACAGCGGCATCCGCGCATTGTGCGCCTGCGCGGAGACGAGCCGG
CCGGTTATGAGAAAAAACCGTTTTACGCCGAAGACTTGTTAAGCTATTACGCTCCGTCG
CCGACTTCGACATCTCTGTAGCAGCATATCCCGAAGTGCATCCCGAAGCGAAATCCGCAC
AAGCCGACCTGAWTAATTTGAAACGCAAAATCGATGCGGGCGCGAACCACGTCATCACCC
15 AATTCTTCTTCGATGTGGAACGCTACCTGCGCTTCCGCGACCGCTGCGTGATGTTGGGTA
TCGATGTGGAATCTCCCGGTATTTGCCTGTTACCAACTTCAGGCAGCTCGGTAAAA
TGGCTCAAGTAACCAACGTCAAATCCAAGCTGGCTGTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 393>:

20 **gnm_393**

CGGCTGTCTTCATTGGCGTACGGCGCGCTACTGCTCACACCGGTACTACCCGAAAGTTAT
GCAGCAAGCGTAGGACGTGTCTTCAGCACGCACGCTCTGAACAGTATACAGAGAATCTG
AATATTTACTgCATAACAAATGCCGTCTGAAAAATGTGAGCTTTTCAGACGGCATTGAG
25 CCGTAAATCATGGAACGCGTGCGCGCTGAAGCACACACCTTACGCATGGATTTAGGTTT
CATGCAGGCTACAGCTTGCTTCCATAAATCATTTTTATCAGAGCTCGTAGGTACGGTTAA
GCTTTTAGGGTTAGCCGGTACAATGTGAACCTCCATTTTACCTGAATGAATCGTACCAA
ATTGGTACTTAATCCTGATTTCCCATCGCTGCCTATAGGATACCCAAAATCAACAACAGG
ATTTCTCTTGCTCCTTTAGAAATAACTGGATAAGCACCTGAATGTATTCCGTTCAACAA
TTCTTGAGGATTAATGTTTTGATTTAAAGTACTCTTACCTTCAATGTAGTTCTATGTCC
30 TGAAATATGTTCCCTTGAGCTCCATCATGAATTTTAGTCCCAATAGATTTTGCTTTAA
ATCAACATTGCGGGTTTGAAACATTTCTCCATCTACAGACTGAGATAATCTTGAAGCAGT
GTTATGCCTGTAGGAGTCTGAGAAATCCCCACTAACCGCAGCCTTCCCGGTTTTGGCGC
CTTTGTCAGGTTTTTGA

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 394>:

gnm_394

GACGGCGAGCATAATGTCGCTGTCGTATTCGTTTCATCTGGCAGCCGAAGGTGCGGATAAA
TACTTTTTTCATGGTTGTGTCTTTCTCAGGCAGCCGTAATCGCGGGGCTGATTGTTGTTG
GAATGAAAAAATTTAGACGGCAGCAGCATGCCGTCTGAAAATCGGTGCGGATTATAGCA
40 CGATGTGGGTTTTGGAGGCAGGATATTGTTTTAAATATGAATTTAATCGGTGCGGACGG
CTGTATAATGTTTGCTTTAATGGGAGATGTGTATGAAACCGGCTGTATGGGCGGCATTG
CTGCTGTGTGCGTGTACCAGCAATTTGCGCGACAGGGAACATCAGTTCCTGCGTTATAGT
GGATTAACAAAAACAGTACAGCGTTGCCTCGCCTTGCCGTACTATCTGTACTGTCTGCG
GCTTCGTGCGCTTGTCTGATTTTGTTAATCCACTATATCAGACGGAAGAGGGAATCCG
45 ACTGGATTGAGCCGAAATGCCGTCCGAAAACAGCAGACCGATGCCGTCATTCCCGCGCAG
CGGGAATCCAGACCTTGGGATAACGGCAATATTCAAAGGTTATCTGAAAGTCCGAGATT

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CTGGATTCCCACTTTCGTGGGAATGACGGGATGTAGGTTCGTGGGAATGACGTGGTGCAG
GTTTCCGTATGGATGGATTTCGTATTCCCGCGCAGGCGGGAATCTAGAACGTAAATCTA
AAGAAACCGTGTTGTAACGGCAGACCGATGCCGTTCATCCCGCGCAGGCGGGAATCTAGA
CCATTGGACAGCGGCAATATTCAAAGATTATCTGAAAGTCCGAGATTCTGGATTCCCACT
5 TTCGTGGGAATGACGGGATTGAGATTGCGGCATTTATCGGAAAAACAGAAACCGCTCC
GCCGTTCATCCCGCGCAGGCGGGAATCTAGGTTTGTGGTGGGAACTTATCGGGTAAA
ACGGTTTCTTTAGATTTTGCCTTCTAGATTTCGCACTTTCGCGGGAATGACGAAGAGTTGC
GGGAATGATGGAAAGCTATGGGAATAACGAAGGGTTAAAGTAATCACGGGATGGTGTTCG
CGGGAATAT

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 395>:

GNMEW92TF gnm_395

GGTTTCGCTTGTTTTAAGTTTCGGGTAACCTTCCACTTCGTTCATTCACGAAAGTGGGAA
TCCAGTTTTTTGAGTTTCAGTCATTTCCGAGAAATTGCCTTAGCATTGAATGTCTAGATT
15 CCCGCTACGCGGGAATGACGGATTTTAGGTTGGGGGCATTTATTGGAAAAAGCACAAAG
CTGAAAGTCGGCATTCCCGCGCAAGCGGGAATCCAGTGCCTTGAGTTTCAGCTATTTAGA
ATAAATTTTGGGACTCTAATCGCGTCATTCACGAAAGTGGGAATCCAGGACGCAAAAT
CTCAAGAAACCGTTTTACCTGATAAGTTTCTGCACTGACAGACCTATATTCTCGCCTGCG
CGGGAATGACGAATCCATCCATACGGAAACCTGC

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 396>:

gnm_396

CCGGGCGAAGTCATCGCCGGCGCGCTCGGCAGAGACCTCAAACAATGCGCCGTTTACGGC
CGCGAAGGCCACACCGGTCCGCGCGATCCGTCGACCATCGGCTTTGCCACCGTCCGCGCA
25 GGCGACATCGTCGGCGACACACCGCCCTCTTCGCCACCGACGGCGAGCGCGTGGAATC
ACCCACAAGGCCAGCAGCCGCATGACCTTTGCCGCGCGTGCCGTCCGCGCCGAGTTTGG
GTCAACGGCAAAACGGGTTTGTACGATATGCAGGACGTACTCGGGCTGAACAGCCGTAA
CCCCCATACAAATGCCGTCTGAAGATATTGTTACACGGCATTTCGCCGACAGGCTC
CGTATCGGCATATCAATGTTTCAGCACACAGGACGACGCATAAAGCGTCGCCCTATGTGT
30 TGCCCTGAGTCGGCACGGGTTACGCCCTCCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 397>:

GNMEW95TR gnm_397

GTCCGATGTCTGTATTGATTCCAGATCAGTCACCATTTTTTGGGAGTCTTCAATGGTTAT
35 ATCGCCAAATCTTTTCCATGAGCTTTGAACTGTCCATTAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 398>:

GNMEZ23F gnm_398

TGGTTTTGGGTGGGTCAAACAACCTCTACTTACATGGATCGGCAAAACGACGATCACCAA
40 CTGCAATCACTTCGTCAATCAGGTAACAGTCAAACCTCCACCGCCAACGACAGCGCAAAAG
CCAAACGCGCTTTCATACCTGAAGAATAGCGTTTCACCGGCTCATACAAATATTGCCCA
GCTCCGAAAATCTTCCGTAAACGCTTTCACATAATCGATATCGACATTGTAAATCCGGC
AGATGAAACGCAATTG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 399>:

GNMEZ79TR gnm_399

5 TCCCTCTGGCCTGAACCAAGCCCAGAAATTATACCTGCAACATCCGACACAAACAAAGGCA
TTTCAATATTTTATTTCTATGAAATAAAAGCGTGAAGCAGGCTTACACGCTTTTATTT
GGCTGGGGAGGAAGGATTGGAACCTTCGCATGCTGGAATCAAATCCAGTGTCTTAACCG
CTTGACGACTCCCCAAAAGGGCTGGCTGGGGAGGAAGGATTGGAACCTTCGCATGCTGG
AATCAGGATCCACTGTCTTAACCGCTTGACGACTCCCCAACTCGCTTGACTTGGCTGGGG
AGGAAGGATTTCG

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 400>:

GNMFC24TR gnm_400

15 CTCGAGGGAATTGACCGGCAATTCTTCAAGCAATAAACAGGAATACCAATTATTAAAAGA
TAACCTTAGTCAGATCGTACAATAAAGCTTTGAAGAAAATGCGCCTTATTCAATCTTTGC
TATAAAAATGGCCCAAAATCTCACATTGGAAGACATTTGATGACCTCATTTCTTTCAAT
GAAGGGCCTAACGGAGTTGACTAATGTTGTGGGAAATTGGAGCGATAAGCGTGCTTCTGC
CGTGGCCAGGACAACGTATACTCATCAGATAACAGCAATACCTGATCACTACTTCGCACT
AATTTCCC

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 401>:

GNMFC24TF gnm_401

25 AATTCCCCGAGGAATTATTCGATAAAGATAAGCTTACATTATGAAGAGCAGCATATTACA
GCCGTATGGGTCTACTTGACAGTAAAATTTGAAGAGCATTGGAAGCCTGTTGATGTAGAG
GTCGAGTTTAGATGCAAGTTCAAGGAGCGAAAGGTGGATGGGTAGGTTATATAGGGATAT
A

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 402>:

GNMFC32TF gnm_402

30 GCAGTCGACAGTAGnAGATCCCCACCCGTACCGATGCAGAAGGCTATATCGAGAAACTGC
ACATTACCCCGCCAATGCCCATGAGTGCAAACACCTGTCGCCGTTGTTGGAAGGTCTGC
CCAAAGGTACGACCGTCTATGCCGACAAAGGCTATGACAGTGCGGAAAACCGGCAACATC
TGGAAGAACATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 403>:

35 **GNMFC63TF gnm_403**

CGATAAAACCTGCGCTATCAGGCGCTGATGCAGGGCATTTCGCGCGAAAAATCCGACGA
AATCTTCACTACATGGAAAAATTCGCCGGCTACGGTTTCAACAAATCCCACGCCGCCGC
CTACGCCCTGATTTCTACCAGACCGCATGGCTTAAAGCGCACTACCCGCCGAATTTAT
GGCGGCGACCATGTCGTCCGAATTGGACAACACCGACCAGCTCAAGCATTTCTACGACGA
40 CTGCCGCGCCAACGGCATTGAGTTCTGCCGCCGACATCAACGAATCCGACTACCGCTT

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5 CACGCCGTATCCGGACATGAAAATCCGCTACGCGCTCGGCGCGATTAAAAGCACGGGCGA
GCCCGCCGTGCAATCCATCACCGCCGCGCGGCAAAGCGGCGGCAAGTTTACCGGTCTGTT
GGACTTCTGCGAGCGCGTCCGGCAAGAACACATGAACCGCCGCACCCTCGAGGCCCTGAT
ACGCGGCGGCGCGTTCGACAGCAATCGAACCAACCGCGCCATGCTCTTGGCGAACATCGA
CCTCGCTATGGACAACGCCGAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 404>:

GNMFD08TR gnm_404

10 ATTACGTATCGAGGCATTCGAGCTCGGATACCCGGGTTAATATCAGATTTTGGAGCAGTA
AAATTTATTATGTACACTAATCCAAAACAAAATCAAATATTGAAAAC TAGATTTATTTTC
GAATAAATAGAAAGCCGTCTTATATATAGTAATAAATTAATAACCCTGTTTTCTATTG
CCTTTATTGTGCCATGCAGTTGAGTTTGATGAACTCAATATAACGACTGTAAAGATAAA
TCTATGTTATGTGCTGTCAGAATTGATTCTCCCAAAGGCAATAACTATAGTGGATTAACA
15 AAAATCAGGACAAGGCGACGAAGCCGCACACAGTACAAATAGTACGGCAAGGCGAGGCAA
CGACGTACTGGTTTAAATTTAATCCACTATATAAATCTATGTGGTTTGACAATGGCAAGT
TAGTATTTATATCCTTTACTAATCAACAAATGGAAAATCAAAGTCGCCCATCTCTAGCGA
TGTTTATTAGTGATGACAAAATATCCAGTACCAATATTGATGAATTTTAGCATCTTTCG
ATCCTGATAAATATCGAATATTTTCATGATCCAAGATATAAATTTTTACCTAGTATGTCGA
20 ACTCATTGTAATCCTTATTCTCTTTTGATATTGATAGCAAATATAAACCTGATGAGAAA
GATAAATCTTTTTTTCAATCAGCAGATAACACAGATTTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 405>:

GNMFE17TF gnm_405

25 GTTATCCAAAGGAGGCTGTGCAAGGCAAGGCATGAAATCGAGCAGTCCGTATTGTTTGAC
TTTGTCTGGTCAATGACGACTTGGCGCGAGCGGAGGAGGATTGCGCCATATTGTGAAT
GCCTGCCGTCTGAAAAGGTCGCGGCAACTGGGGTTTATTGCAGATTGTTGGAAAATTCC
TAGAAAACGGCGAAAATACCCGGTTTCCCAATTTAAATATTTTGAAGAAAGCAAATAA
TATGGCAGGTATTACCACCGAAGACTGTACCGGAAAAATTTCCAACCATTTTGACCTGAC
30 ATTGGTAACGGCTCGCGGGGCGGCAACCTTGAAAACGGCAACACGCCGCTTGTGGACAA
TGTCGCGCACTACCAACCGACCGTTACCGCCTTAAGGGAAATCGCCGCCGACATATCGG
TACAGAACTGTTGACGCGCAATAAATAAATCTGCCGGAACGCACGCCGGAACACTTTC
CCGCCGTGCAGTCCGACGGTTTGAAATGAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 406>:

35 **GNMFE18TF gnm_406**

CTTTGGATGAAGATGGTGTAAATGCACGCTTTGGTCCGACGGGTCGAAATGCGCGCTTTCG
ACTTGCCCGACCATATAAATTTTCATACAAAACAGGGCTGTTGACGTTGAGGATGCGGTTCG
TTTTTACCAATCAAATTCAGCGCAGCCCGCTTTGCCGATGGCGGTAACGGGCGGAATG
40 TCCTGCACTTGGAACACGCTCTTTGGCTCGTCGCTTTTGCCGGGTGTAAAGGCGATGTAC
GAACCCGAAAGCAGCGTACCCAAACCGGTTACGCCGCTTTGGTCGATACCGGCTTGACA
ACCAAAACTGGGTAAACCTGCGGATAAGGCCGAATACTTCGGCATTGATTTGGGCGGTTA
CTTCAACGCCTTTTTGGTCGTCGCGCAGTTTGATTCCGGTAACGCGTCCGACATCGATGC
TCAATACTTTGATGACCGTATTGTTGACCTCAATGCCTTCCGCGCTGTCCATCAGGAGCG
TAACCACAGGCCCCCTGTTGCGGATTTCTTAACCCA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 407>:

GNMFE54TR gnm_407

```
5  CTCGGCTACCCTGCAAATTCAGATTCCCGTCTGCGCGGGAATGACGATTTCATAAGTTTC
   CCGAAATTCACATAACCGAAACCTGACAGTAACCGTAGCAACTGACCGTCATTCCCA
   CCACTTTTCGTTCATTCCCGCGAAAGCGGGAATCCAGAATCTCGGACTTTCAGATAATCTT
   TGAATATTGCTGTTGTTCTAAGGTCTGGATTCCCGCCTGCGCGGGAATGACGAATCCATC
   CGCACGGAACCTGCACCACGTCATTCCCACGAACCCACATCCCGTCATTCCCGCAAAAG
   CGGGAATCTAGGACGCAGGGTTAAGAAAACCTACATCCCGTCATTCCCTCAAAAACAGAA
10  AACCAAAATCAGAAACCTAAAATCCCGTCATTCCCGCAAAAGCGGGAATCCAGTCCGTTT
   AGTTTCGGTCATTTCCGATAAATTCCTGTTGCTTTTCATTTCTAGATTCCCACTTTTCGTG
   GGAATGACGGCGGAAGGGTTTTGGTTTTTCCGATAAATCTTGAGGCATTGAAATTCCA
   GATTCCCGCCTGCGCGGGAATGACGATTTCATAAGTTTCCCGAAATCCAACATAAGCGAA
   ACCTGACAGTAACCGTAGCAACTGAACCGTCATTCCCACCACTTTTCGTTCATTCCCGCGA
15  AAGCGGGAATCTAG
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 408>:

GNMFF86R gnm_408

```
20  GAATGACGATTTCATAAGTTTCCCGAAATTCACATAACCGAAACCTGACAGTAACCGTA
   GCAACTGAACCGTCATTCCCACCACTTTTCGTTCATACCCGCGAAA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 409>:

GNMFG09F gnm_409

```
25  CCGACTACGATTACTTATAAAAAATGGACAGACAGTAAATGGTATGCCTGTTGAAATTG
   CAATTAAAGAGAAAAAATAGCTGCTGTTGCACAGACTATTTTCAGGTCTGCAAAAGAAA
   CTATCCACTTAGAACCAGGTACTTATGTATCCGCAGCTGGATAGATGATCACGTTTCATTG
   TTTTGAAAAAATGGCTCTTTATTATGATTATCCAGATGAAATTGGGGTCAAAAAGGGTGT
   TACGACAGTGATTGATGCTGGGACAACAGGTGCTGAAAACATTCATGAATTTTATGACTT
   AGCGCACAAAGCAAAAACAAATGTTTTGGATTAGTCAATATTTCTAAATGGGGCATCGTT
30  GCTCAGGACGAACTCGCAGATTAAAGTAAAGTACAAGCGAGTT
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 410>:

GNMFG29F gnm_410

```
35  AAATCAGAGAAGCTACTGCGAAAGTTGCTGCTGAAAAAGGTGATCAAAATGGATAAGCGT
   TCGGTGCTATGATGGATTAAATTCGTTGGAACTGATTTAGACAGTTCAGTGACACAATT
   AAGAGAAATTAAAGCAGGGCTCCATGAGTTGGTAGAAAAAATACCACGTTGGAAATCGG
   AAACCAACGCTTACGAGAGCATCTCCAAGAACTGAATAAGTTAGCAGGAAATACAACCTGA
   AACTGAAAAACAAGAGCTATCAAAATCTCGTATGAATTTGGAAAACTTTATGAAGAGGG
   CTTCCATGTCTGCAATATTTTATATGGTTCAAGACGTGAAAATGATGAAGAATGTGCCTT
40  TTGTCCTGATGTTATTTATGGGGAAC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 411>:

GNMFI01F gnm_411

CCTGTCGACCCAGATGGTTATAAAATCGAAGTCATTTCGTGAGTGTTAAAAAGTTTCACTT
GTTCACTTACTGAGCTTTTTGTGTTTGAGAGCTGTCCGAGACAAAACCTGTCTCGACTTC
TTCTCAAACACTTTTTTCAAAAAAAGTGCTACAATAGAACGTATGAATTTATTGAGGATG
5 TGATGTTATTATGACAAAAAAATTTATTGGAATCGCTGGCAATCAACTTTTGCAGGCAGC
TGAAGTGTTCACGGTAACCAAGTGACGTACACCCACAAGGTTTTGTCAGCGCTGTTCA
AGCCGCAGGTGGCGTTCCTCTCGTTTTGCCAATTGGCCCCAAGAATTAGCCGCTACGTA
TATACAACAAATTGATAAA

- 10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 412>:

GNMFI03F gnm_412

CCGGTGAGTTGCTGCTTTTAATATACTCTCATCTTTTATTGTTTCTGCTTCTTGATTTTT
GCTTTCATATTCTTTTTCTAATTCCTTTACTTGATTACTTAAAGTTAACTCTTTTCATT
GATAATATCTTCGATGGAATTATTTACTGAATCTTTAATTTATCAGTTTGTGCGATAAAG
15 TCCGTATAATTGTGTAAGTAAAGGCCATATAACAGTCCTTTTACGGTACAATGTTT
TTAACGACAAAAACATACCCAGGAGGACTTTTACATGACCCAAGTACATTTTACACTGAA
AAGCGAAGAGATTCAAAGCATTATTGAATATTCTGTAAAGGATGACGTTTCTAAAAATAT
TTTAACAACGGTATTTAAATTTTCAAAAAAACCC

- 20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 413>:

GNMFI04F gnm_413

CCGGAAAGAAAAAATATTACTTTAGTTGAGTTAAGTGAGGAGTTAGGTATTCCACGTTT
CACTCTTAATAGGTATGAAAACGAAGATAGCGAACCAAAACAAGAACTTGGGAAAAATT
AGCTGATTATTATGGTGTTTCTACGGCTTATTTAATGGGGATATCCAACCAAAGGTTAG
25 CGAAGAAAAAGCTTTGACGGCCGCAAAGAAAGTTATCAAGTCTATCTTTCCGACGACGA
TTTAGGAAAAAGAAATTCGAAAAGCTCTAATGTATTTAATAAAAAATGATTTAGATAGTGT
CTTAAACAAGCAATGCAGCAGTATTTTACTATCCAGCCGTTGAATGGAATACAGAATT
TCAATCTT

- 30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 414>:

GNMFI05F gnm_414

TGCGCCGCTGATTCTAAATCATTTTGTAATCGTCGTTACGGGATAATCGCTGCTATTTT
CCAAGTCGTTTTTGCCTTATTTATCTTTTATAATTCTATCGGCACAACTCGTTGACGGT
TATTCTGATTATGTACTTATTCTCAGGATTTCTAGCAACAGTTGTTAAACGGAAACGGAT
35 GAGTGAGCAAGTTTTCCAGCTTTAATGTGGGTAGTGGTCTTTCCTGTTTTTCATGGCGGT
TGTCTTAATGATTTATCAAGGGATGAGTTTAAACAGATGGTAAACGTGGACAGCTTTAAT
TTGTGCAAGTGCAGGAACGGTACTTTCATTTTGTAGCAACAATGGGCTTGCATCCATATAT
CGAATTATTAGT

- 40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 415>:

GNMFI07F gnm_415

CCGGCCTATCGATTTCCCCACATTTACAGTTGGCAACTGGCGGTGGAAGCGTTATGCCCA

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5 TAGTGGTCTATTTGATTGGATAAAAAAATCAAGGACTATTCTCCTGAAGAGTTAGCATT
ATTTTTATATGCTCCACAACAAAACCTAGCTAATCCACCCAAAGAGTGGCCTCATACAGC
TTTGTATGAAGGAATCGTCCCGCGTATGCAACGTAGCATATTGCATACAGACGAAGGCAA
ACGTCATCAAAAATACCTTAATCACTTTGTTACCGTAAAAAGATGTCCTGATTGTTTAGG
AAGTAGAGTCAATGAACGTGTTCTAGCTGCAAAATTAATCAGAAAAGTATTGCTGATGC
TGTTGACATGCCACTCAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 416>:

GNMFI08F gnm_416

10 ATTCCACCTAACTCGTTAAGCACCGAAGCTTCAATCAAGCAAGGGTGCATTTATTTTGC
TTCCTTAGTCAATCGAGCAAAGGATATCGGTTGTGATCAAGAGAGCATCATTCAATCGTA
TAACATAGGTGGTGGATATTTAGACTATGTTGGAAAAAATGGAAAGAAGTACAGCTTTGC
CTTAGCGGAATCTTTTTTCAAAGAAAAATCAGATGGGGAAAAAGTGACCTATTCGAATCC
AATCGCTATTAAGGAGAATGGTGGTTGGCGTTATACTATGGAAATATGTTTTATGTAAT
15 GTTAGTGAAACAATATCTTACTACAACGAAGTTTGATGATAAAACCGTTCAAGGAATTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 417>:

GNMFI09F gnm_417

20 CGGAGTTTTGATGAAGATTGTTATCAAGAGTGTATGATTAGGTTATATTTAGCTTTGAAA
AAGTTTGAAATACGTGAATGATACATTTTTGAAATAACAGACTCCGTCTACCACTCTTTA
TTATTACTGTTCAAAGATATGTTCAAATACACTTAACTACTTTTGAAAAAATATAAA
AAATACTGAAAGATTACTTCATTTTATTAATTTAAATCTATTGAATCATGTAGAGGTGGC
GTTAACCATGTATTTATTTTATTAGGCATGTTTATAGGATGTTTGCTTGGTATAACGAT
TTTAAATTGTTTAGCCATTGCAAAATATGATGATATGAGTTCTGGAAGAAATTAGCTCTT
25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 418>:

GNMFI10F gnm_418

30 CCGAATTTTTCTTTTTACATCCGAAGGTTTACTACTTCATTATTAAGATGTTCCCAAACA
ATTTGCTCTGGCGGTGCCGTTTTATTATAAATACGGTAAACAATACGATCTAATGATTTT
CCAAGAAGTGATTTCCCGACACCTTTATTTGTACTGTTGCCTGATCGTCTACAACCTACG
GCATCAACATAGAAATAGAGCCCTTCCATATAAATAACAGTGTCTGGAACAAATATTTGT
ATATATAAAGGTGTCAAACCAACAAACAGCTCAAACGTTGAATAGGTATAGTAATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 419>:

35 **GNMFI11F gnm_419**

40 CCTGATTTTAGCTTTATCGAAAAACCATTAAATTACGAAAGGAGCAACTCGTGAAGAAATT
ATTCAGGATCAATTGGTTTTAGCTGGGGACCCTGCCAATCAGAATTGGTTGGTACGTGAA
AAGGATCTGGGGTCTTTTCAATTATACCCAACAGTATTTAGAAGAAAGTAATCAAAGCCCA
ACACTCATGACGGTAAAAACAATGAAATGATTGTTAAATGTTGGAATTGGGCATGGGG
CAATCGTTGCTTTCAAGAAAAGCGATTACTGAAAAAATTCCTTTCCAAACGTTAGGTGAA
AAGTATTGGCGTACCTTTAATTTATTAACACGGGGACATTTAAAATCCTCCTTGCTTCAA
GAAGTAAACAAGCAA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 420>:

GNMFI12F gnm_420

5 CCTACTAGAAGCAATCGCGCAATATCATCGGTATGCAAGCCTGTTGTTGGTTCATCCAGA
ATATAAAAGTTTTTCCCATTAGAAATTTTATGAAGTTCAGTCTAGCTTCATCCGCTGT
GCTTCCCCACCAGATAAAGTAGTTGCCGGCTGCCCAATGTCACATAGCCTAAGCCTACA
TCCACAATTGTTTGCAATTTACGATGAATTTTAGGAATATGTTTGAAAAATTCTACGGCA
TCTTCCACCGTCATATCTAAATATCAGAAATGTTTTGCCTTTATAATGAACTTCTAAC
10 GTCTCAGAATTATAACGTTTGCCATGACAACTTCGCAAGGCACATAGACATCAGGTAAA
AAGATGCATTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 421>:

GNMFI13F gnm_421

15 CCGGGGCTTTCAAATTGGCTAGCTCTGTTTCTTTTCAGCCAACAGTTGTTCTTGTTTAG
CCAATTCGTCTTTTGTCTTTCAAGCATCTCAGCTGGAATTCCTGGTTGTTGCTCCAAT
GCGCAAGTGCTTGTTTTCCCGTTTCCAGCGCTTGCCGACCTTGGTTAATGTCCGGCTGAG
CCGAATCACGCAGAGCCGCAACCTGTTCTTCTGGCCGATTTTTCAGTGCCTCTTTACTT
GATTTAAGGCCTGCTCTCTTTTCTTTTCATAATCAGAGGAATACGTATTTGATGTTTTA
20 ATGAACGAAATGAGATTAGCAATTCTGGATACCGTTGACTGTCAAAGGCTTTTTCCGAAA
CCACGCCAAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 422>:

GNMFI14F gnm_422

25 CCGAATTGGAGGGTAAACCTTTTTCAATTTTTGTTAATGCAGGAGAGAAAGTTACTACCG
AAACATTATTAGCCGAAGTTGATTTTGATCAAATTAACAAGCAGGAAAAGATCCATCTG
TCATAGTTGTTTTTACTAAACCTGAACAAGTTAATGAAGTCATCTTAATAGTTATACAA
CTATATATGGTGATTTCGTGTGGTAAAATTATACTTTGACGTAGAGTTAAGTATGTTATCG
GATTAAATTTAAATGAATAAAAGGTGATTATAGACTGTGAGTTATAGAATTTAAGTAAAT
30 TATATTAACAAAACACCCTACTATTATATAAATCAGTAGGGTGTCTTCTACTTATCCGAA
CTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 423>:

GNMFI15F gnm_423

35 CCGTTTTGCAATTTTACTACGTTACTTACCAGTGAAAAACATTTCCCTTATTTAATTCT
TGGTTTTACTGTAACGCTTTACTAGGAACAATCTTTACAAACATGCAACTTTTAGGAAC
ATCTGTTGCGAGCGTTGTGAAAGACTTCAGTGGTGTATTTAACGCACTACCAATGTTAGC
AGTCGCTTTAATTGGTTTCGCTTTAGCCGCAATTAGCTACAAAAATGGTCAAATGATTCC
GAGTGGGCCAGCAGCCAAAAAGAACATGCAGCGAATGATTACAGCAAGGAGAGATTGA
AGATGACGAAATCTAATTATAAATTGACGAAAGAAGATTTTAAACAAATTAATCGCAGAA
40 GCTTGTTTACTTTCCAAAnTTAAAnGGGGGGGTTTTTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 424>:

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GNMFI16F gnm_424

CCAGCCATTGCAGTCGAAGAAGTTGATTTTTTAACGGAAACAATTAAAGAACCGAACGCA
GTAGTAGTTCCGTTTCTTTCAAAAAGAGGCGTATAAAGGGAGGAAGAAGGAATGGAATTT
GTAATCATTTTGTGTAAGTCATTGCTTATTGGTGGTTTACTAGGTTTTCAGCTGGCGCA
5 GGCCTGCTCGGATGTTTCATGCACCACAAACGCAAGGGTTAGGGGCATTTAGAACATTA
GGAGAAATGAACGCGGCACAAAGGAGATCCAGCATCACACTTTTCTTTTGGTTTAGGTTTT
TTCTTTAATGCTTGGGCTTCGGCCGTCGGAGCAGGGGCCTTACACAAGATGTGACCCAC
CGGAnTTGTTT

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 425>:

GNMFI17F gnm_425

CTGAAGATTATCATCATGTAAATATACAGATGAAGCGATTAACGCAGCAGCAAACCTTAT
CCAATCGTTACATTCAAGATCGCTTTTACCAGATAAAGCGATTGACTTGTAGATGAAT
CTGGTTCAAAAATGAATCTAACTATCCAACCTCGTCGATCCAAAACAATTGATAAAAAAT
15 TAGCAGAAGCGGAACAACAAAACAACAAGCTTCCGCAGAAGAAGATTTTGAAAAAGCGG
CTTATTATCGTGATCAATCAATAAATTACAAGCAATGAAAGAAAAACAAATCAGCGATG
AAGAAACACCAGTCATCACTGAAAAAGATATTGAAGCCATTGTGGAACAAAAAAGTGGCA
TTCCTGTGCGTGACTTAAA

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 426>:

GNMFI18F gnm_426

CCTGTGAATAATCCAGCCAAATTAATCGCTTTAACTGCCTTAAGTTCTGTGGGAATTAAC
TTACTAGTTGGCGAACAATATTTGTCAATTATTTTACCAGGGGAAACATTTAAATCCTCA
TTTACTCGTTTAGGTATTGATAAAAAATATTTAACTCGTACTTTGGCAGATGCTGGGGCG
25 GCAGTCAACTCGTTAATTCCTTGGGGAGTTAGTGGTACCTTCATTATGGGAACGTTAAAA
GTTGGTGCAGTAGAATACTTACCATATGCCTTTTCCCATTGCTTTGTCCCATTATCACC
GTCATTTTGGGGATATTCTTAAAAAACAACAAGGGGAAAAACAAAAAGCACCAGGGACT
A

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 427>:

GNMFI20F gnm_427

CGAGGGACTTTACAATCAGTTGGTCAGGTTGTCGCCAGTGCCAATATGGTCAATGAGAAC
GCAGTTCAACTTGCGATGCTCTTTAAAATTATGCGGATTGTCCTACTCGTAGCAGTTGTC
TATTTATTTGGACGTTTCAAGCAAAGTAAGACGGCAGAATCAGAGGCTGAGTTGGTAGAA
35 GTCACCAAAAAAGCAGCGCCCTACCTTGGTATGTAGTTGGCTTTTTCATTGCCTGTGTC
TTTAATAGTTTGATTCATTTCCCGTCGTGATCAGTGAGACTGCTCATTTCTTTAGTTCT
TGGTTTGAAATTACTGCCTTGGCAGCAATCGGGTACGACTCGATTTTAAAAAGTTTTTC
CA

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 428>:

GNMFI21F gnm_428

CCGGCGCACCAACTTGAATGGCCGAGAATATGTACAACGCTTAATCGCAGCTGCAGGTA

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5 TCAAACAAGACTATAGGACGTCATTAGCCCAAGCTCAATTAATTAATTGGTGTATGTTCA
ATGGGCAATGGTTAGGACAAGTAAGTCCATTAACAGTTGATGAATTTAAAGTTGTCAGCT
CGCCTAAAACAGCTGCTTATGCGTTTGAATTAACCTTTGAACGTCCAGCTGCAGCACATC
CAGAAAGACAAACCTATGCACAAGCATGGTATGACAAATTCAAAGATTTGAAAGCTTCTA
CTGCAACAGGAAAAGCTGGCATAGAACATTTGGAGACCTTAATGGGCAAATGGCTTGGTA
ATGGGCAATGTTATGCCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 429>:

GNMFI22F gnm_429

10 CGAACTGGTTGCCAAAGAACTCTACCAAGACTCGACTGCAGCAGTTAATCGAACTTTTCC
ATATAAAGAGCAACTTTTTACCATTGTTGGCGTGACAACCAATACCAGCGGTGCCATTGG
TCCAGGTAATGATGACTCATTGCTTTATTTTCCAAAAAGACCTATGAACATTATTTTCGG
CAAGCTAAAAGATACATCTACGTTGAAACTAACAGTAGCACCTGGCTATCAACCAGATCA
AGTATTGAAAGAAACAATAAAAACTCTCTCTCAACAAGGAACCATGAAAAACAGTGGGAC
15 GTATCAAGAATATAATGTTAAAGATACCATCAAAGAAATGGGCTCTTTATTAAATAATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 430>:

GNMFI23F gnm_430

20 CCTGATTACGGTCGTTATTATGATGCCGTTTATGAAACGTTGAAAAATGGTGCAACGCAA
CTAGTAACTAAAGAGCAAGCATTAACTAACATCGAAATTTTAGAAGCAGGTTTTCTTAAC
CCAAGTCCAAGTGTATTATCATTTGAAAGAAAACATAAGCGTATTTAAATGACTTGAAAAG
CGCCTGCCCTACAGTCCAGACAACCTGTGGGGCAGGCGCTTTTATTTATAAGAATTGTGA
ATTTTAATATAAGAAACGTATATGTTAGTAAAAATAAAAAAGGAAAGACATCTTAGTA
GCACACTTCCCCAAGAATTGCTACTAAAATGTCTTTTGTGATGCTCGCTCAATTGAAGA
25 GCCTTAAATAGGATAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 431>:

GNMFI24F gnm_431

30 CCCCTAAGTAATGGTCAATTCGGAATATCTTGTTCAGGAAATGCAGCACGAATTTCTT
CATTTAATTCGTAGGCAGATTATAATCAGAACCAGGCTTTTCGATAATTAGACGAT
CAAAGCCTTCTCCGAAATAATATGTTGTGATTTCAAGTGATTAACAATGGTTCCAAAGA
ATTGAGGGGCCATAGCTAAATAGTAAACATGATTGCCTTCTAAGTGGTATTGTTCAATTA
GGCGATCAGATAATTCTTTTAAGGTATTATAATGTTCCGTATCATTACATTATGTGATT
GGTAATAGAAATGACTAGAAAATTCAGTTGCCTCTTCGGCCGTGGGATTAAAGTCTTGAA
35 TG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 432>:

GNMFI25F gnm_432

40 CCGGTTCTTTCTAAAGGTGAAAATAAGGAAACGCCATCTTCCGTTTCGATGACTAGCCAAG
GCATAATTGTTTTTCCCATGACTTGATCTTCTTTTCATGGTCCCGGCACCAAGTTAATAAA
GCGACATTGGACAATCCTTTAAAAATGGGCAAATTAATTCGACACTTGGTATCGCAATG
GCACCAATCACAGGTAAGTTTTGTTTTCAAATGGGCTTTCATCACCGCTTCTGTGCTC
AAGGACTCAACTGAATCAAAGTCAAACGTTGTTTCACGAGCCATATTTTCTTCACATCA

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GCTGGTTTCAACTTGCTAACGGCGTACGAGCGGCTATTTTGTGAACCAACCAACTACGT
ATCTGATTGTTAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 433>:

5 **GNMFI26F gnm_433**

CCGGCGTAAATAAGAAGAAACCTTTACTTTTTTTTAAACAACCAAGTACCTATGCCAAATA
CAGCTAATGAAATAATAATGCCAACATACGGATTTCATGCGCGAACCTCTCCTTTTCGCTTT
CTTCGTTGCTGCGGGTTCTTTTTCTTTTCGAGCATCTTTCATATGCAATAAAAAAGGCGCC
CGTCCAACCAGTTGTTGCTAGTAACGCTAATGTTGCTACTAAAATAACAAAAATAATTTG
10 AACGCCAAATTGTTGCATAATCCCTAAAGAATTAAGTAAAGGAAATCCCTGAAGGAACAAA
TAAAAATGTAATAACCGTTGATAAGCTATTACCTAGCCCTTCCACTTGCTCCAATTTAAC
AACTATTTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 434>:

15 **GNMFI27F gnm_434**

AGTTTATCTTTGGTTCGATTTTCCTTGATATATATATAATCTTCAGGAAATGCTCCTGTCT
GTTTAAAATTCGGAATTTTCAGAAATTATTCTTTTTTGCTAAACTAGTTATAACTGGTTAG
TAAAAAGAAGTATTGGACGAATAGTCTGAAACAAGTGAATGATCCAAAGTATAAAGAAA
AATGAAACCGATACCACAAGACAAGACTGTTGCTGAAAATGGTAAGTGATCATTCTGCTA
20 AGTTTAGTGTCTTAATGTTTAGTTAACTAAGAATTGTTGGATTGTACTTTAGAAAGAAGG
GACAATATGAAGCGAAGTAAATGGAAAGAATTGATAGTAACGGGCATCTGCCATATA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 435>:

GNMFI28F gnm_435

CCCTGTAAATCGTCTTCATATTTTCCATTTCTGTAAGTGCAATAGCTTTAGGATAATC
GAAGCTAGTTAAGTAAAGATGCGCATTCGGTACTTGCTTTAAGTCCTGAATCATCTCATC.
CACATCTTTAGTTGCTAAAGCTGAAAATAAAATATGAATCGTGTGTTGTGGAACTCTTT
GCGCAAGTTTCAACTAAGCGTTTACTGCATGATCATTGTGGGCACCATCTAAAACAAAT
CAACGGTTCATCACTAAGACGTTCCATTTCGAGCTGGCCATTGCGCTTTAGCCAACCCTTG
30 AGTAATGTCTCGTTCCTTTAAATGGCAAATGTTGTAGTTGGCAATACTTGTCAAATAATTG
AA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 436>:

gnm_436

CGGAACGAATGATGCCTGAAGAGCGTTTATTAGTGATGCGCCGTTTATGTGCGAAAGATA
CTCCAGCCTTTATAGTATCCAGAGGACTAGAAATCCCCGAAGAATTAATTACAGCAGCAA
AAGAAAATGGCGTTTCTGTATTACGTTACCGATTTCAACTTCCCGTTTACTAGGGGAAC
TATCCAGTTATTTAGATGGCCGTTTAGCTGTTTCGGACAAGTGCCACGGAGTTTTAGTTG
ATGTTTATGGACTTGGTGTGTTGATTCAAGGAGATAGCGGTATTGGTAAAAGTGAAACAG
40 CTTTAGAGCTTATTAACGTGGACATCGGCTAATCGCAGACGATCGCrTCGATG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 437>:

GNMFI31F gnm_437

5 TGACCAAGAAACGGTGGTCATTGAAATGGCGAAAGCAACGGAATTGAATTGGTTAAAGCA
GCAGAACGCAATCCCTTGATCACTTCTACTTATGGTACAGGAGAGATGATTCAACATGCG
CTCAATCATGGGGCAAAAAAATCATTATCGGCATTGGTGGTAGCGTGACAAATGATGGG
GGTGCAGGTATGATTCAGGCACCTGGTGCGCTTTGTTAGACAAGGAAGGGCAAGAATTG
ACACGTGGCGGTGGTGCATTAGATAAACTGGCGCAGATCGATTTAACACAGTTTGATCAA
10 CGCATTTTTGTACCGAAGTTCTAGTAGCAAGTGATGTGAATAACCCACTAACAGGGCCA
ACAGGGGCGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 438>:

GNMFI32F gnm_438

15 CCGCTTGTCAATCTATCACTTTGGTTGTCTTCTTTTAAAGAAGGCAAGATTTCTTCTTTA
TAAAGGGTTTGATAGAATTTCGTTTGATTGTTTATCCAAAGAAGCTTCATACTGATTTGTT
GCTTTGCGCCAGACAAAATGAATTTATTGGCATCCGCTTCGATTTTGTGCCATCAATA
TATAGCGCTTCATTGTCAATTACCTGATTGGTGATTAATTGACAGCGGAATAAGACAAAG
GCTTCTGTAAAAGGTGAGCAGTTGTTTCTGACTTTGGAAGCGATTGATGGTCCGGTAA
20 CTGACTTGTTTCGTGGTTTGTAGCCAACGCATACGATAGCTGTCATCTAATAGAAATCCA
A

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 439>:

GNMFI33TR gnm_439

25 AAAGCATTCTCAAAATTCTCTCGCTATACCGCAGACGGTAACAAGCCGTTGGCGAAATC
AAACGACATTATACGGCACACCCGCCGAAATCTCATTATCAAGGGCAATAATCTGATT
GCCCTGCATTGCTTGCCAAGCAGTTTAAAGGCAAAGTGAACTGATTTATATTGACCCG
CCATATAACACGGGTAATGACGGTTTTAAATACAACGACAAATTTAATCATTCCACTTGG
CTGACTTTTATGAAAAACCGTCTAGAAATCGCCAAAGAGCTGCTTATGAAAGACGGTTCG
30 ATTTTTGTGCAATTGACGACACCGAACAGGCACATTTGAAAATTTCACTGGATGAACCTT
TTCGGAAATGAATCATTTACCTGCACTTTTATTTGGGAAAAAAGACAGGTGCGTCCGA
TGCCAAACAGATAGCGACTATTACATAGTTTGTCTTATGTTACACAAAGAACTTTAAAC
AGTTAAATTAGATTTAAACACGTTTTTCATATGATACAGAGAGATACAAATTAAGTGATAA
GTTTGAACACGAGAGAGGC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 440>:

gnm_440

40 CCGGCAATCCATATGTGATGGGCGCAATTTTAGGTGCTATTATCCCGATTGTTGGTATGA
CACCGTTAAGTTCAATGGTTTAACTGCCCTTGATTGGTTTGACTGGTGTACCAATGGCTG
TCGGTGCCTTGACTTGTTACGGCAGTTCCATTGTCAATGCGGCGCTATTTAAAAAGTTAA
AACTAGGCACAGCTTCAACCCCGTTAGCTGTGGCAATTGAGCCATTAAACACAAGTCGATA
TCATCAGTTCCAATCCAATTCCTATTTACGCAACGAATTTATTTTCAGGAATGGTTAGTG
GCATTGTAGTGACCTTCTTTGGCTTAAAGTACCTGTACAGGAATGGCAACACCGTGGG
CTTG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 441>:

GNMFI35F gnm_441

5 CCGACATGTGGTCCATCACCCGAGGATGTAACGTTGCTGGTTGGACATTCAATGCTTGCG
TGTCTTCTTCAAAGGCTTTGATAAAACGCTCCGCCACTCCGGCGCAGTAATTTCAATT
CTTTAGCTGCCTTGATAATTTTATCATCGACATCTGTAAAGTTCGAGACATAATCACTT
CATACCCACGATATTCAAATAACGACGAATCGTATCAAAGGCGATCGCACTGCGCGCAT
TACCGATATGGATATAGTTATACACGGTTGGTCCGCAGACATACATCCGAACCTTACGCG
10 CCTCAATTGGCGTAAATACTTCTTTTTCTCTGGTCAATGTATTATAAATTTAATCATGC
CCTTTTTCCACCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 442>:

GNMFI36F gnm_442

15 CTTTAAAAGAATTCTTTTCTAATATTGATGAAATTACAGATTTAATAAAAGAAAAGATGG
ATGAAACTGGTATTAACTATTGTGGAATACTGCAAATATGTTTTCAAATCCTCGTTATG
TCAACGGCGCACATACTACAAATAATGCAAACGTATACGCTATCGCAGCTGCTCAGGTAA
AAAAAGGTTTAGATGTTTCAAAAAATTAGGTGGAGAAAATTATGTTTTTGGGGTGGAC
GTGAAGGATATGAAACATTACTAAATACTGATATGAAGTTGAACAAGATAATATTGCGC
GTCTATTCAAATGGCTATATTTTACGG

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 443>:

GNMFI37F gnm_443

25 CCCGTTTCACTCAATTACAATCTCTACCAACCAAGTAGCGGACCATCTAATTGATTTAGG
GCTGGTTAGTTTCCTTTGATATGTGTAATCAGCGGATTTTACCTTTTATGAATCCGTTAG
TAAAAATGCGGCCCTTAACAGTTTGCTAAATTATCGCGATCCTTTAGGTACGCACTTTCA
ACGAGCAACCGCTGCCGAATGGCTTCAGACACAAGGCGTTCGGACCAATGCCGAAGAAGT
TGCCATTGTATCTGGTGTCCAGAATGGACTGGCCGTGACGTTAGCCGCCGCTTTTTCTCC
AGGTCAGCGGATTGGCGTAGATCGATACACGTATTCAAATTTTATTGAACGCGACAGCT
TTATCATTTAGAAAT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 444>:

GNMFI38F gnm_444

35 CCTGAATTAGTTATGATCATTTCTACGCCAGCTATTAACTTGTGACGACTGTTCTTATT
GAATATGTCATTTTTTTTATTGTTTACGATCTTTTTTATCTAGTGGTAATTGGGGTGATT
GAGTTTATACATTGTTTGTTTACATTCTTTTTGAAACGAAGAGTGAACAAATTAATAGT
CTCAAAGTGATAGGTGATAGTTTATTAATGATTTTGGTACTTTTATTTTTTTGATTTT
CGTTATGGTTTAGAATTATTTCTAGCAAACCAATTGTGGAGTATCTCCTATATGATTCCT
ATCACTTTTTTCTAATAGTGGTATGTTTAAATGCTTATTAGTATAGGCTATTAAGAC

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 445>:

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GNMFI39F gnm_445

5 CCTTCAATTTTACTGTTTAGCTTAAGCTGATTGAATAGAGTATCAATTTCTTCCCACG
GGGAAAAGTCGAAGAGACCAATTTCTCTTCGACTTTCTTTGTATAAAGCAGAAACAACTT
CGATTCCCTTAATCGTTACTGCAGCTGTATAGGTGGACTGAAAGTTGTTGCCATAAGGAA
GCTTCCCTTCAACTGTCGGTGATCCTGTTCAAGAATATTATTGAGGTATTTTCGACTTCC
AATGCTTCACTTTTTGGTATAGAATTCCTTCTTCTTCAGCTCTTTGATCGCTTTTAATG
AAGGAGCATATTTATCTGTTACAATGGAACGTGGTTGACCGTAGACTCTGATTAGACGCT
TGAAAAAGAGCTTTA

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 446>:

GNMFI40F gnm_446

15 CCAGAAATCATGACAATGTGAAAGTATCGTATGCCTCATTGGAACGCTATTTAGAAGATA
TTCATCGCATGGTGGAAAATGGTTTACTTTCTGAAGAAAAAGAATTTTATGCGCCTGTGC
GCTTACGTGGCGGGAACAAATGTCTGATCTGCCTAAACAGGTATTTCGCTATATCGAGT
TGCGTAATTTAGACTTAAATCCTTTTTTACGTTTAGGCATTGTGGAAGATACTGTGGATT
TCTTACATTATTTTCATGTTGATTTATTGTGGACAGATGAAAAAGAAGAAGCGGATGAAT
GGGTGAAAACCTGGGGATATTTTAAATGAACAAGTGGCTCTTGGTCATCCTCATGAAACGA
nTTAA

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 447>:

GNMFI41F gnm_447

25 CCTCCTTGGCATGGCAACTACTGGAAGTATGGCAAATACACAGTGACTTTAGAGCCAGG
GAAGGCCCTCAGCTAACGAAACAATAACTGTCGTAGCGAAAAATGCAACAGGAAAAGAAAG
TCAGCCAGCTACAGCAACTACACCAGTCGACTTAGCCACACCAACCATTGATTCTATTAC
CGGAAATTTAGTAAAGGTTACGAAATCACTGGAACGGCGGAGCTAAAAACCACTATTGA
TGTCGGTGACGCAGACGGAACCATCATTTGCTGCTACAAGTCTAACGAAACCGGCAATA
TACGGTGACTCTACAGCTGGCGTAGTGACACCAGGAGAAACGATTACGATTATTAGCAA
AGATGGCGCAGGTAAnTGAA

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 448>:

GNMFI43F gnm_448

35 CTGCTTAAAAATACTGTTTTAGTGAGTTTAGGTACGAATGGTCCTTTTACAGAGGCACAA
TTTGATGAATTTATGAAAGCGTTAGGTAATCGAAAAGTTTATTGGATTAATGTTTCGCGTC
CCAACTAGAAGATGGCAAAATCAAGTGAATAGTTTACTTAGTCAAATGGACAAAAAATAC
GATAACTTAACGGTCATTGACTGGTTTAATTATAGTAACGCCCATGATGATTGGTTTTAT
GATGACCGAGTTTCATCCAAATGTGGCAGGTGGCGAGCAATACACACACTTTATCGCGGAG
AAAATTTTACAGTAGCAAGAACTTCCAGCTCAGATGAAAGGGGCTGGAAGTTTTTTGTT
ATAGGAAAAGCAAT

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 449>:

GNMFI44F gnm_449

CCGTGGAAAACTTTTGTTAAAGCTAGAGCTAATAGATAAACGAATCGAACGCACATTAT

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5 TTCGACAAAAACATTTTGGAGCGGTTTTGGGCTACTCTTAAGCCTTTAGAGCAACAATTGC
TCATTAGGCGATTCAAGTATAAAGAAGAGGTTAATTGCCCTCACAGGCTTATAGAGAGCG
TATTAGATGAGATTGAAGAGATAGAAACAGCTATTTGTTTGATGGAAAATATAGAATTAG
AAGAAAACGAGCTTTCCGACGATGTAGAAGAAAACCTTAGAGAGGATGTGTGACTTCTTTG
CTTTATGAACGTATCCGTCCAGAGTTTCATCTTGACGCTGGATATATTACGAAAAGCA
CG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 450>:

GNMFI45F gnm_450

10 CCTGATCCTAAAAACGGCTTTGTTTATAGCTTCCTCATCGTTGAAACAATTCAAATGGT
GCAGAAATCTCAGCGGGGAAATTAGCACCCAATGAACTAGGTGTCACAGCTGTGGATGAT
TATACATTAAAGGTGACGCTCAAAGAGCCAAAACCGTACTTTACGTCCTTGTTAGCTTTT
CCGACATTTTCCCGCAAATCAAAAAGTAGTCGAACAATTTGGTGCGGACTATGGAAC
GCTAGTGATAAAGTCGTCTATAATGGTCCGTTTCGTGGTAAAAGATTGGCAGCAAACAAG
15 ATGGACTGGCAACTAGCAAAAATAATCGCTATTGGGATCACCAGAACGTGCGCTCAGAC
ATTATCAATTATACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 451>:

GNMFI46F gnm_451

20 CCCCCATTTTAGAACGGATCATGAATCAATATCAAGAAATAGCTGCGGCTTTACGCCAAG
CGTTGCCGCAAATTTTTCCGCAAAAGAATCTATCGGAAGAGGAAATGCCTACATGGTGC
TTCATTTTGCCAATTCTTTAGAACGGAGTCCCAAAATTATGGAAGTTGATATTGCTGGTT
TTTCTCCTAGCGGTTTGGCTTCGACAAGTATGCTGGAATGCGATTACGGCGCTACTTTC
CTTTTATCAACCAGATTTCATTTTTTTCGGATTGCGGATTTAGGTAAGGTGAATGTTGAGG
25 AAAACTATGACTTAGTGATTTCCACTTCGTTATTACCAGGATACAATGGTAAATATAAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 452>:

GNMFI47F gnm_452

30 CCCGTTGCGCTACTTGCTGATGTTGCTTCCTTAGCGCTACTTGCTACTGTGCGGACTACTT
TCAATCGTGATTGTTTCCGCAACTGCGGTGCGGCCAGAAAAGGCGTTAATCACTAAAGAA
CTACACAAGCCAATGGTTGCTAATCGTTGCCACTTAGTTTGCTTCATGTCGTCCTTCTT
TCTCTGGACCATTCCGACAAGACCAATCAAGACAAGACCAAGAATGCTCAGGTTTGCCCTG
ACTCTTGCTTCCTGTACGAGGGAGCTGCGAGCCAGCTGTGGTGGTCTGTGTGCAACCACC
ACTTCGTTGATCTCCTTGAGAGGACAGCTGGTTCCTTGGGATCCGCAGCTGGCTCATC
35 TGTTTTCCGTGGGGGGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 453>:

GNMFI48F gnm_453

40 CCTAAGATTTGGCTTATGAGCTTGGGACAGCGCTTAAAAACGTTTGTCTCTTTGCTGATA
AGTCCATTTTTTTATAACGGAGGTGGCTAGAGTGAAAGCCTGTGGCATTATCGTGGGAATA
TAATCCCTTTCATAATGGACATCGCTATCATGCCAACAAGCTCGCCAACAAGCGGACT
GATAGTAGTGATTGCTATAATGAGTGGAATTTTTTACAAAGAGGAGAACCAGCCTTACT
AGATAAGTGGGCCAGAGCAGAAGAAGCTTTGCAAAATGGTGTGGATTAGTCATTGAATT

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GCCGACAGCTTGGTCGGTACAGTCTGCGGATTACTTTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 454>:**GNMFI49F gnm_454**

5 CCGGAGCGAGTACCCAAAAATCGCGTGGGAACCTTTTGCTGAATATATTGCAGTGGATCAA
GCGGCTGTAGCTATGAAGCCGAAAAATTTAACGTTTGAAGAAGCTGCGGCCATTCCGTTA
GTCGGTTTGACAAGTTATCAAGCGCTACATGATATTATGAATGTACAGCCAGGCCAGAAA
GTCTTGATTCAAGCAGGTTTCAGGAGGGATTGGAACCATTCGCGATTCAATTAGCAAACTA
10 GCAGGCGCTTACGTTGCCACCACAACGAGTAGTAAAAATAAGAATGGGTTCAAGCGTTG
GGAGCAGATGAAGTGATTGACTATCGGACACAAAATTTTGAAGAAGTTTATCCGACTAT
GATTATGTGTTTGATACAATGGGGGGGACAATCTTAGAAAAAGCTTTCTCAGTGGTTAA
CCTCAGGGAAAAGTTGTTACATTGTCAGGCATTCCCAACGAACGTTTGTCTAAAGAGTAT
GGCTTGCCGCTTTGGAAACAATGGGCCTTTAAATAGCTACCCGCAAGATTG

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 455>:**GNMFI51F gnm_455**

CGGAATTGTATTTACTGCAGAGACAGTTTAAGGAGGACACGCAATGAGCAAAGGTCCGTT
AGTCACTCGGACAGAGCTTCGCAACGCAGAGAAGCAGAAGAAAAAGAAGCGGAACGTCG
20 TCAGCAAGAAGAGCAGAAGCTGGCGGAAAAAGCGTATAAGCGAAAAGAAAAAGAAATTC
GACGTTTTATCGTAAAGAAAAAGAAAAACAAAACCGATCAACAAGTCACGAGTAGGAGA
ATACTCGAAGCGTCGAGAACGGAGTACTTGGTTAAACAAGGCAATTATTATTGTAGCGAT
TTTATTAGCCGTTGTGGCATATATCGTTTTGAATTTATAGAAAAGAGGAATCACTATGAA
AATTGGAATTATTGGAGCAATGGATCAAGAGGTCAAATTTCTAAAAGAAAAATTGACAGA
CAGCATGTCATGGGAACGAGCAGGCGCTTTATTTGTTTCTAGTTCGTTAGGAAGACATGA
25 GGTGATTGTAGTTTCGTTTCAGGAATTGGTAAAGTGGCCTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 456>:**GNMFI55F gnm_456**

CCGGGGTTGAAGGTGTACATGGAGAAAAACAAGTTGAGAAAAGTGGGCTTAAGTGCCTG
30 GAATGGCTAAACAACATCCAGAAATTAAACAACATAAAGAATCAAGTCTCTATGAACAG
TTGTTTGCTAGTCAGCAATGGCAACAAGCACAAACGATCGGAATGATTCCGTCGTTACCG
CTAGAATTATCAACACAGCCAATTTTGAACGGGCCATGCAAGAGAGCAAGCAAGTGGCG
GTGCCGCGAACATTTAAAGGAGGCAAAATGCACTTTTATCAAGTCTTCCAGAGACGGTT
TATGATACCAGTGCATTTGGCGTGGAAGAACCCTCCGTTAACAGCGGCAGAAATAACAGCT
35 ACAGCGATTGATTTATTGATTGTGCCAGGGATTGTTTTCAATCGTGCTGGCTATCGAATA
GGCTTCGGCGGTGGTTTTTATGATCGAATTTGGTACATTTTTCGGGGCATTCTAGTAGTT
TAGTTTTACGTGACACTCCCATG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 457>:40 **GNMFI56F gnm_457**

CCGGAAAAGTCGCTGGCCTTGGCACCCACGAAGAATTACTTACTTCTTCTAAAGAGTATC
AAGAAATCGTTGCGTCACAGGAGGAGGATACCATGCAAACTAAAAAATTCATTTTGGTG
CCTTCTCACGTTTTTAAGCCGTATTTACTACGCTATCCAAAAGAAATTATTGGCGCCTTAA

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TCCTAGGAATTCTCAGTGGTTTTTCGACTGTCCTCATGACTTATTATATAGGTAAATCCG
TTGATACAATGGTGGGTAAAGGACAAGTCAATGCTGCGCAACTCATCAAAATTTTAGGTT
TATTAGCAGGGATTTTACTCGTAACCGTTCTAAGTCAATGGCTGATTCAACGTCTCGGTA
ATCGCGTGTCTTATTTATCGACCACACAGCTGAGAAAAGATGCCTTTGCCCATTTAAATC
5 AATTACCGTTAAGTTATTATGACCAAACGTCACACGGAATATCGTCAGTCGCTTTACCA
ACGATATTGACAATATTTCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 458>:

GNMFI57F gnm_458

10 CGCGGTCGTTTATAAACCATTTAGAACCGTTAGACACACCAACGATTCATTTTGAAAAATT
ATATGGACCTGATCAGAACGGGGCATATATTTATCGAATAAACGACTAGTGATTCATTCA
TGGAATGAGGTTTGAATATGGGAAAAGTATTGAATAGAATCGGTCGACTTATTTTATTAG
TTACAATGATCGGCTCGTATACGATGTGGGTCGTAGGAATTGATGCGCCAGTCACAAAAT
ATATGTATGCCAATAGTTCAATTTTATTATTAATAGCAGTAATACTTGTACTGCTATTAA
15 ATTGTACGATATTAAAATTTATTGACTGGCTGACCGTAGCGTTGGCGCTAGCAACCTGGC
TCTTGTTCCTTTACGGAATCAATCCGTCATAGCACGATGCAAACAGATACAATGATTC
CTTTAATTATTTTATTGGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 459>:

GNMFI58F gnm_459

20 CCTGCTGTGCCGTTGCGCCAGAAGGAAGCATCAGCTAGAAGTGGCTCAATTTTTTCTTGG
AAAACAGACCATTTTTCTCAGGAAATTTTTTTCAAAGCGTGTTTTGCCGCTTTTGCA
AAATTTTTCAAACAAGCGAATCTTTTCTACGTTTGTATGAGCGACATGGGTGTTAAAC
AAGAAAGTAACAAACGGTCCATGAACCTTCTTCAGAAAATAATGTTGATAAGCTATCTTAT
25 TTTTGATTTGCCATAATAAAATCCCCCTTCTAAAAGTAAGTGTAGCACAGGAAATCGAAT
GTTTAAACAATATGTTCAATAAAAGAAAACGCTTCACTAATCTCAATAAAGGACTGTT
AATGGTGTCTAATAAAAGTTTATAAAAAATATAGCTGAAACTCATGATAAAAAAGGCA
CAAACCACTATACTTACGTTATGCCAATTATCCCGAATTGGTATGTTCACTTACTCCT
ACCAAGAGTACATAA

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 460>:

gnm_460

ATCTATAATTCCTGAATCTCAAAGATCAATTATTCAGTTAATCTATTATTGCCATCTAA
CAATAGATGATTACAACATAAATCATTATGGCATAATCACTTTTTACCCTCAAAAACCTGT
35 TGTTGCATTTAGTCTTTCCATAAAACTATCTATATAATCTTTTCTATATCAGTTAAATC
ATTATAAATAGTTTCACGCAACAATATATACTCTTCTAATACATTTTGTATTATTCAAT
AGTACATTCACATAATATCTGTATAATCTAAACCGTGCAATTTGTCTTAAAAAAGTGGCAAT
ATCTCGTTTTAACAATTTTGTCTTCTTCTGACATAGTAGAATAAATTTCTGGTGTTAA
AAAAGTTCCCTTAATTTCTTTATAACCTAGTATAGATAATTCATCACTAATATACGAATA
40 TTCAATATTAGGAATTTTACATTAGTTTCTAAATTTGTATTTAAAAAATTATATATTGC
TTTTTCTTTTGATAAACCTTTTTCTTATTAGTACTAAATTTGTTTTAAAAATGTATTC
ATTATTAATAAATATGCCACACTATCATAACCACTACCGATTATTTCAATACTATCTAC
TTTGAAATTATCAAAGTAATGCTCAATTAATATTTCAATGCCTTAACATTTGTGGCATT
ATCATCATATCTATATTCATTAAATAACAATCTTCTTTTTGCCCTCGTGTAATTCATG
45 TTCTGGCAATCTTCAATAATTCTAAAACAGATTTTGGTATGCCCTTATTGCTCTATG
GATTATTTTTATGAGGGACTAAAATAACTGCATTAGCATTTCTTCGATTTTCAAAAAT

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CAAAAATCAATTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 461>:

GNMFI60F gnm_461

5 CCTGCAAAGGCTCTTACTTCTTTGATGTCTTTAACTCCAACTTATGCCCTATCACATTT
ATTAAGTTTAGCACCCCTTTGGTCAGTTATCCCATCTAAATGATCTAAAAAATTAGAATAA
TTTTCTTTTCTAAAGCTTCTTGCATGTTTGTCTTAAACGATTTTAAATCGAGT
TTAGTTGCACTAACTTTGGATGATTTAATTTAATACCCCACTGCTTACTTGCGAATTCA
TCCAATAAATCACCAACATCTCTTCATACAATTTATCTATGTCATCGCTAATTTAGGA
10 ATAATTGGTATTTTCAGTACAACGGCAACGTCCATGATACGGTGGATGCCAATCATCTTTA
ATCTCTTTTCCATGACGTCCACCACAAATAGAACAAACACGCTCATCTTCTGCCGACCAG
CTTTGTGTTTGCTTAACACCTATATCCTTTAGCGATTTTCTTACACCTTCTACCGCAAAA
TGTGAATATTCCGTCTAA

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 462>:

GNMFI61F gnm_462

CCGATTAATAATTTTATTCAAAAAGCGCGTCGAGCAACAAAAACCATCGGACTTGGTGGC
AATGGTCAGTTTTTTCGGTTATCAATGATTACCGAACACTTAGGCTATCAGCCTTGGGGA
AATGCTTTGTTGGATGACTATGAGTTAACCATTAAATTAATGCTGAAAGAGTTATCGATT
20 GCTTATATTGACGAGGCCCTTTATGGCTCAAGAAGCACTGAGAGATGTGAAACGTTTTATT
CGTCAACGnGTGCTTGGGTTCAAGGAAATTTAGATTGTCTAGCGTATTTACCCAGGGTGA
TTAAATCAAAGTCATTAACGCTAAGGCAGAAGTGTGGAATCTATTATTTTTTAGCGCAAC
CCTTTATTAATCTCGTAGCGGGGATGCTCGTTTTTGTCTTAAGTGGGCTTCAACTGCAAC
ACTTGTATAGGTTAGGCTTTTTCGTTATCGCTTGTCATTAGTTTTGTTTTGGCCGTCAGTA
25 TTTCGTTAGTTTTTCGGCATTTTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 463>:

GNMFI62F gnm_463

CCCGGTTTGCAAGCTGCGCAATGCTTAACGTTAGAAGAAGTAGCCAAACAAATGGCTGCT
30 GAAACAATCGATCAATGCCTGTTGCCCATTTGAGACAGCAGTAGAACAAATCCCACGAATT
GATTTATCAGATGAATTGTATCAAAAAGTAAAAAATGGCATGCGTTGCACAAAAAGAA
TTAGGAATAAAGGCAATGCCAGAATCCTTAGTCGCCTTATTTTACCAAAATCAAGTGGTT
AGTTTATACATGCCACACCAACGCATGATAAATTATTGAAACCAAGTAAAGTTCTACGG
AACAAATTAATAAAAAGAAGGAAGTTTTTGCACATGCAAGTTATTCAACTACATCATCC
35 CTATGAACCCCAATCAAATTCCTAATGAAGAAGTCGTGATGGTCCTAGGCTTTTTTGACGG
TGTTACAAAGGCCACCAAAAAGTAATTGAAACAGGTAAAAAGATTGCGGAGGAAAAAGG
CTTGAAGTTAGCTGTGATGACCTTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 464>:

GNMFI64F gnm_464

CCGAGGGGATTGGCCTGATGGAACGGAAAAACAGGGGCAGGGACATCCCGCCCGGATAT
ACGTTAAAAATTTTATCTTGGAAACCGGAACCCACCGCGCGGTTTCAGACTGCGGAAATC
AGCAGTCAAGACCGCTTCCAGTGCCGCGCTCAAGACTGCTGAAAAACCGCAGTCTGCAC

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CACGGGAACCAGCGGTCAACAGTGCGGCATTTCGCCCTAATAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 465>:**GNMFI65F gnm_465**

5 CCGGATCTAATCCTAGTTGTCCAGAAATGTACAACGTATTTCCCGCTAAGACAGAATGTG
AATAAGGTCTACAGTAGCTGGTGCCTGTGCAGAAATTAATCATTTTGTTCATCGTTT
TCCTCCATTCTATGATTCTTTATTTTCAATTAAAGTCCCTGTTTTTCCAGATAATCCTTC
TTTGGCTTTTTCTAATAACGTAATCAATGTTTTTCGACCTGGCTTAGATTACAGAACTT
AATCGCTGCTCAACTTTTGGTAACATTGAACCTGGAGCAAAGTACCTTCTTGCGCATA
10 TTGTTTCATTTTTCTGTTGAAACATTCCTAAGGCTTCTTGATTTCTTTACCAAAT
AATACAAATTTTTCAACTGCTGTTAAATCACGAGCAGATCAGCATCCACTTGTTTCAGC
CAGTCGTTCACTACAAAATCTTTGTCGATGACTGCATTGACACCTTTTAGTCGGTTCCC
TTCTTGAATGACTGGGTATGCAC

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 466>:**GNMFI66F gnm_466**

CCGAAGAACTTTTTTGAACCCACATTGACAAATTGCTCAATTGCCTGCGTGGCACC GCC
ACGGTTATCCAAGAGAACTTGCCGAATATTCCTATGCTCAGTGGTTCGATCAAGGACAAC
GATCGAATGGCCTCGTTTCAGCAAATTTTCAATTTCTTTTGTGGAAATGTCCAATCTAA
20 AATAATTGCCCCATCCACCATTTTTTCAGGAATGATAAGATGTGACTTTTACCGCTGCA
GACAATCATCTCATAATCAAACAGTGCTAAGCCTTTCTTAATCCCTCCAACAATTCACC
ATAAACTACCGCCATAATCAGCCAAATAGACACCAATAATATTGGTTTGACGACGTTT
TAATGTGCGAGCGGGCATGTTAGGAACATAGTTTAGCTCTTCAGCAATTGCTTGGATGCG
CGTTTCGTGTTCTTCAGTTACCTTTGAATACCATTCAATGCGTAAGAAACGGTCGAGAT
25 TGATACGCCTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 467>:**GNMFI67F gnm_467**

CCCTTGATTTTAAAGAATAGATACAGTAGCATAAGAACAAGTCTTTCACTGGCAAT
30 CGTCAATGTCATATAGAAAAGATGCCCTATCTGTATTATCTGAAAAATCAAACAATCAT
AACCAATTAGAAAGGTGGTTATTATGTATAACTTATTAACCAAACAGGAAATTCAGTTAC
TTCCCTAATTGAATACTTGATGACAGTAAAGAAAAAGTCCCATGCAAGTACTCCGAC
GAAAATATGAATTTTCCATTACAATATCAACAATTTATTGAATCAATTAACCTTTGTTAA
TTTCTCGAGTCAATACACATGAAAATGTACATATTTCGTATTATTAATAATCAACAGTCCA
35 TAGAATTAGTCGCGGATGAAAATATCCCGATTGAGTTAATGAAAGAAGCTGTTGTCGCG
GGTCACTAACCTATATGTTAGCCAGGATTTACTTTTAATACGCTACACTTCAGCCAAAG
ATTTTTGTGAAGAGCCTTTATTAACCTTTCTATTTTTTAACAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 468>:**GNMFI69F gnm_468**

CCAACTAGAAGAAGAAATCAACTATATCAGCAATCCATTAAAAAGCTAACGGAGCAATT
ATTAATGCAAACCAATGAAGTGAAGCATTACAAAACAAGTAGTCGAAAAGATGTTCA
ACTTAAACATGTTAAAGAAACATTAAGTGATAAAGAAACAACATACACTTCTTTACAGAA

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ACAATTGTCTGAAGAAAAGATGCAACAGAGACAGACCAGTGAAGAGAATTTAGACACAGC
CGTTACGCTTTCTCAAAAAGAAATTGGCGAAGTGTATTAGAAAGCCAAACGTCAAGCAAA
AGATACAATTAGTCAAGCCAACCAACAAGTTGCAACAGTTCATGAAGAAATGGAACAACG
TTTAGCAACTTTTACACGCATGAAGCAAGTGGCAAGATAGTACCAAGCTTATTGTGAACA
5 AATGCAGACAATCAAGAATGAATCAACAGGAACGTACCAACAGATAGAGCAGTTATTAGC
AG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 469>:

GNMFI71F gnm_469

10 CCGGTGTTATTCATGTTTGATTATTCGAAAGAACCAGTAAATGATTATTTTCTAATCGAC
ATGAAGTCTTTTATGCGAGTGTGCAATGTATAGAAAGAAATTTAGATCCATTAACAACA
GAACCTGTTGTTATGAGTCGAGGTGACAATACTGGTTCAGGATTGATATTAGCTTCTTCT
CCTGAAGCAAAAAGCGGTATGGTATTACAAATGTGAGTAGACCACGTGATTTACCACAA
CCATTTTCCTAAAACACTACATGTTGTTCCACCACGTATGAACTATATATCAAGCGAAAT
15 ATGCAGGTAAATAATATTTTCAGAAGATATGTGGCTGATGAAGATCTACTGATTTACTCG
ATCGATGAATCAATCTTAAAGTGACCCGATCACTGAATCTTTTACGACTGAAGGAACA
CGAAGCCAACGTAGAAAGAAGCTCGCTCAAATGATCCAAGAACGTATTAAAGAAGAGCTA
GGATTGATTGCTGCAGTAGGTGTCGGAGATAATCCCTTGTTAG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 470>:

GNMFI72F gnm_470

CCGGCTCCAACGTACCAACTGTTTGTGAAATGATTGATGATGCCAAAGTAATTCCTGGTT
TAACCTTAACAGAACTGTCTCTTTAAACTATGCGATGGAAGAAGAAATGGCTTTAACAC
CCGTGCACTTTTATTGCGACGGACCAACCACTTATTATTATGCGTGATCGTTTGGACCA
25 AGTGAAAGCGGGAGTCATTGAAGAAATGGCACAGCATTATCAGTGGACAGCGGAAGAAG
AGCACGACACATTGAAACATTAGAAAAAGTAATTGAAGAATCAGATTTAAAAAATTTGAA
AGTAGGGTGAAGAAAAAATGGGAACCTTCGATGATGACACAATTATTCGGTGAATTTTTCG
GAACGATGATTTTAGTTTTACTAGGGGATGGCGTCTGTACCGCAGTTAACTTGAAGAAAA
GCAAAGCCTTTGCTTCTGGTTGGGTGCTTATTGCTTTAGGTTGGGGCGC

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 471>:

GNMFI73F gnm_471

CCCGTCTTAAACGGCTCTACACTAGAGAGGTATGTTACAGCATATCTCTCTTTTCAATGC
TATTATAGACAACGACCATCAAAAAGACCATCAATAAAAATGCCCCGAGCCTCTTATTTTT
35 CTAAGGCTCGGGCATTTTTATTTAGGGGCCAGTCACTAAATCCACGTGACGGCGGCTT
GGTATTGTTGGCCAGCCATACCTTGGTTGGCTGGCACTTCTAGTTTGATGTTAGCAAACG
TGAAGTCCAACGTGATAGACGTCACTGCCTGTGAAGTGTGTTTGGCAACACCGCTGTTG
CGGTATTGTCGGCGGTTAAAGTCACGGTGCTGGTCTTGCCAAGTGGTGTCTGGTTTCTG
TTGGTTGGTTGTAATCGGTAAAGCTGGCAGCAGCGGCCGTTTCCTAGCAACAAGCGGGTCG
40 TTGTTGGCAAGCTGTCTGTGGCTGATTTTGGTTGCAATAGCTGGGCCGTTAACTCCAAT
TGGCTTGGCTAGTATTACAGGCGTAAATTAGGGTTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 472>:

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GNMFI75F gnm_472

CCAGACACAGAAATTGAACGCAATATGATTGAAACGAGTCAACTTGTGAGCCGTCTAAAA
GAGAAGTAGGGGTGTGCAAGCAAATGAACTTAGAAGGATTAACGACAGAAGCCAGAAATG
AAGCGACTAAAAAGATTGACCAAGTGTCAACATTAGAAATGGTAACTTTAATAAATCAAG
5 AAGACCAAAAGGTAGCACAGCAATTGAAAAGGTGCTTCCGCAGATTGCTGCAGCAATTG
ATGCAGCGGCAGAACGATTTAAAAAAGGGGGCCGTTAATCTATTGTGGTGCAGGAACGT
CTGGACGTTTGGGTGCTTTGGATGCGATTGAATTAACACCCACATATAGTGTGTCGCCAG
AACGCGCATTTAGTATTTTAGCTGGTGGTGAAGCAATGTATCAAGCAATTGAAGGCG
CTGAAGACTCGAAAGAATTAGCTATCGAAGATTTAACGCAACATCAATTGACTGCCCGAG
10 ATGTCGTAATTGCGATTGCTGCTAGTGGTCGGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 473>:

GNMFI77F gnm_473

CGGAAATAATAGGGATTCTCTGCTTTATTAATGTTTATTTTGCTCCTACATTAAGTA
15 AAATAAGTCCAATAGTTGATCATACTGCGGTATCACAGCAATCCGTAGCCTTTATTTT
TTTTATTAATTATTCCTATACTTAGCGCACTAAGAGGGTATTTTCAAGGTCTAAATTATA
GTTTTTCTTTTGGTGTTTCCCACTACTAGAACAATTAGTTCGAGTAGTTTGTATTTAG
TAGGAACCTATCTAATTATAGTTCAATTTAATGGTAG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 474>:

GNMFI78F gnm_474

CCCGGTCAAGTTTACTTAGCAAAAGTTGTCCGCATTGAAAAATTTGGTGCGTTTGTTAAC
CTAATTAAGGCAAAGATGGCTTGATCCATATTTCTCAATTAGCAAAACGAGTGTGAAC
AACGTTGAAGATGTCGTGAAATTAGGCGACGAAGTCCTTGTCAAAGTAACTGAAATTGAC
25 AAACAAGGCCGTGTCAACGTGTCAAGAAAAGCGTTATTAAACGAAGAAAACAAAGAAAA
TAATTTCTTTTAAACCAACGAAAACCAAGGAAGCTTCCTTTCTTTTCGTTGGTTTTTTC
GTTGAAAACAAGCCCTAAAAAGAAATGATAAAAAAGCTAAAGACGATCGCCAACCTCTT
TTGTTTATAGTCAATTAGTGGTAAAATTAATACTATCAGTCTGAAGAATATCTGGGGTGT
CTTTGTGAAAAAATTTAATCCAAATAAAAAATATAATCATTACCTTAATTTTAGTCATTAT
30 TTTAGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 475>:

GNMFI79F gnm_475

CCTTGTTAAAGTTAAGAATACAGCGTTGACATCATCCATTACCCCATAAAGTAAAGCGAA
35 TAATGAGATAACCACAGATTGTGTTAACACAACGTTACGAGAAACGCCATATTTATTTTC
GCGATGGAACCAAATTTTGGTGGCAATAAGCCATCACGAGCAACTGAATAATTGTTTT
TGATGGTCCAGTAACCAAGCAGATAATTGTAATAACACACCTAAGAAGACCATGAAACT
AAAGATATTACCAATAATTGTTGGTAAACCTAAAACGTCACAATAAAGCAAAATTGGTTG
TGTAATGTTAGACAATTCCATTTGCCATTTGGAACAATATTAGCTACATACATTGCATT
40 AATCACGTTTAATAAACTCACCCAATTAATGACATGAAAACGCCTTTTGTAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 476>:

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GNMFI80F gnm_476

5 CCTGGAAAATTGTGGTGCGATGACTTTTTAAACAATCGTACTGCCTAATTTTGCTTGTT
GGCGCTGGTTATTTGCCAGTGTTTGTGCTCGATAGGTAAGTGAAGTCAACCGTTGCCATT
CCATTTGATGAGGTGTGAAAACAACCTTTTCAGGATAGGTAAGGGAATAATGCCTTGGC
TAAACAGGGTAATTGCTGAGCCATCGATAATTAACCATTTGTTGTTTTGATGTTGGGCGA
GTACCATCTTTAATATTTGTTGTGTCAGTAGCATCTAAGCCTAAACCTGGACCAATTAATA
TAACATCCGCTTGCTCTACGACGTTGCTCAGAAGGACTGTTTCTTCAAAGCCCACGACCA
TCGCTTCTGGGCATCTTGCATGTAAAGGCCCGTTATTTTAAACATCAGTAATCACAGTGG
10 TGAGACCAGCGCCACTATTGATACACGCTTCGGTACTCATGATGATGGCTCCGCATATTG
TCGGTTTCTCCGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 477>:

GNMFI81F gnm_477

15 CCAAAATTTTGGTAAACTAAAAGATGGAAGTATTGGGGTAAAAGGTGGTTGGCGAATTTA
TTCAAGCGGGCCGGGAATTTATTAAATCAATTAATTACAGCTGTTTtagggattcggca
AAAGGCCCAAAGTGTAGTTTTTGATCCCATGTTACCAGAAAAATTGTCTGGTTAACACT
AACTTACCAATTGTTTGATAAACCTGTCACATATAAATTTATCCAAATCAGTCAGCGAA
AATAGTTATCGATGGTCAAGAGGTTCCGTTTAAAGTTGAAGAAAACCTTATCGAGAAGG
GGGAATGGTAGTTCAAAAAGACGAGGTGCTTTCATTATTAAATTGAAGCAAGTGTTATTGA
20 TATTTACCATTAGATAGGAGAGTAGTCCATGGTAGGAATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 478>:

GNMFI82F gnm_478

25 CCCGTTTCGTTTTTATTTCGATTGCTCATATTAGCAATTTCCGGCTCTTGCCCGCAAGAAGT
TGTCTTCCATTTTCGGAAAGCTCTGCTTTAAGATTTTCAATCTCTGTTGCTTCAACTTCTA
CTTCAGAAAACGCCAGCAGCATCAACAGCTTCCATTTCTTCTTGTAATTCTTCTTGCTTCT
CTTCTTTTTTACTCACTTCAGCAACTTCCTTTCTCTTATGCATCTACTTCTTATCCTAA
CAAGGTTTGCTTAATTACCTAAAAACGGTAATAGTCACCTAGTTGTGAAGCTAGCTCAT
30 GTCGAAACGTGTCTACCAACCGAATATTTTTGAATACGGCATACTGGTTGGTCCTAGCA
GGGCAATTGTTCTTTGCCATGTCCTGATACTTCATACGTAGCAGTGATCATGCTCATAT
CTTCTAAGAGATTGTTGCCAATTTCTGAGCCGATACGAAAAACAATTGGATTTTCTGTTG
TTGCAGAACCATTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 479>:

GNMFI83F gnm_479

35 CCTGCCCCATTCGTTTACCGACCCACCGGCAATAATTAAAGCTGTAATCATTGATACA
AAATCCTTTCTCTAACTAGTCAACCACTAGTTTTATTTCATTTTGTTTAACTTATATAT
TCATCAACACAGCCAAAACGCAATCAATCTTTTACATTTTCTCATACTATCAGTAAGT
TTCAATAATTTATCGTAGACCTTAATCGAACTGTAATGAGAGTGTAATAATTTTGTGT
40 AAATGAAAAAATCCATACAAAAAAGGAAGTCGCTTCTGTAGAATAAAGTTAACGACAACC
AATTCACAGAAAAGAGGACTTCCTATGAATGATTTTACTACAGAAATTGTGCAAACTCT
AGTCACTAAAGGCGATTTAAATGAATTATCCGTTTCGCACTTAGAAAAAGCGATAAACAC
ACTCCTACGGACTGAATTAACGGCTTTTTTAGATTACGAAAAATATGATCGCACTGGTTC
TAATTCAGGTAATTCGAGAAACGGTTCTTACTATCGATCAATCAAAA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 480>:

GNMFI87F gnm_480

5 CCGGGAAAAAATTCTATTCTACAAAATAAAACGTTAGAAAAGCCATTAGTTATGCAAT
AGACAGAAGTAATTATGCTAAAAACATTTTAGATAATGGTTCTATTTCTGCTGTTGGTGT
TGTTGCTAAAGACGTTGCTTTTGATCCTAGTACAAAAAAGATTTTGCTAACAAAATGTT
GGTGCATTTTGTATACAGAAAAAGCGCAATCCTATTGGAATAAAGCGAAAAAAGAATTAAA
TATTAAAGAACAAGTAACTTTAAACATTTTAACCAATGAAGAAGAAACAACCAAAAAAGC
10 AGCTGAATACATTCAAGGACAATTAGAAGAAAATCTAAAAGGTTTAAAAATTACGATAAC
ACCAGTTCCTGCAAATGTACAAATAGAGCGAGTTATGAAACATGATTTTACTATTAGTCT
AAGTGGCTGGCAGCGAGATTATCCTGACCCTATGAGTTTTTTAGGTAACCTTGAAAGTTA
CAGTGTGTTGAATTTTGGAGGGTATAGnCATACTAAATA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 481>:

15 **GNMFI88F gnm_481**

CCGGTGAAATTTACCGAAATAAACATATTCTGCTTGATACATGATATTGCCTAATTGAA
AAGCGTCATTTACTTTGTCTTGTGTTTGTACATAAGTGTTGTATGGAATTGCTGTATTCC
AATAAACTTAGCTAGCCTGTGTTGATCTTGTTCGAATAATTTAGCAAATGGCTAGCAA
TTTCCGTATTAACACAAATAATTTATCTTTATTTAAACGGTCTATCTCTATTTCTAAAA
20 TATATGGATCGTCATTCATTAGCTGCAGCAATTCATAGCCAAGACAACATCTTCTTCAA
ACATAAAAGTAGCACATCTAAGATCGTAGCCTTCCACCCGTAAGTATTTAGAATAGAAT
AGGTTTGCTGATTAAAGAGCGTATGGTCTGTACCTGTCTCTCTTCTTAAAGATCCTTTG
CTTTTTTACTCCTACTAAACCGTGTTTCTAATGCTATTGATATTGGACTTATCTGTTA
AATGAATTAACCTATT

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 482>:

GNMFI89F gnm_482

30 CCAGCGCTGCTTCTTCGGGATCAGGCGTCGTTAAACCAAACCTCTAAATGTGCGCCGTTAG
TTCCTAAAAAAGCTTTGTTAAAAACGAAATGTTGTAGCTGTCCATACTAGTGGCACCAA
TGATTGCTTTAGTGAGAGCTTCAAAGTACCACCAAGCATAATAGTGGGAATTTCCATAT
CGCTAAGTTTGCAGCGTGATGCACGGAATTCGTCACTACATGGATTTGTTTCCCAACTA
AAAAAGGGATCATTTCTAACGTGGTTGAACCAGCATCTAAATAGATCATATCGCCATCTT
GTACACAACCTAACGGCTAAGAAGCAATCTTTGCTTTTCGTGCGTGTTTTGATTGATT
TTTCCGTGATGTTTTGTTCAAAGCCTAAATTAAGAATACGCTTAGCGCCGCGTGAATGC
35 GTTCTAACAAATTGGCGTCTTCTAATTCTTGTAATCGCGGCGGATTGTGGATTCTGAAG
CATTGAACAAGCTAGCAAGTTCTTGCGATTGACGACTGATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 483>:

GNMFI90F gnm_483

40 CCCGCACGTTCTAAAATTTACGCAATTTCTCATTGGTTAAAAGCGGTGCTTCTTTCAGT
TCGTGCTTATCAATCAGCTGGAAATTTCTCTCCGCACGTGGCCGTAGTTGGGCACGAACT
TTTGAAAACCTTCAACAACGTCGTCTGTAATCGTCCATTCTCCTGTACCTTCCCAAGCCTGC
ACTGCTCGAGGCGCCACGTAATTATCAGCCCAGTATAATAATTCTTCTTTTCAATTTCA

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5 AAGGTCGAAATATTGTCTAAACGAGGTTGAATAATCGTCATTGCGACGGTTTCAAATTG
TAAATAATGTCGTACTTATCCACCGCACAAGCGCATATAACATCAGTTGAGGGTTTAA
TACGCATCAACAGGAACACCTTTGCCGTATTTCAAGTCGATAATTTCAATCGTCTTATCT
GATAAGACAACCACGTCCGAAGTTCAAATCCTTCTGGGACCCATTTTGAAAAATCTACT
TTTTGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 484>:

GNMFI91F gnm_484

10 CCCAAAGTGATTTAACGTTTAATTCAGCGTGGGCGTTTAATCCTTCGACCAATGGTTATG
CGTTAGGTTTTCAGCAATGATGGACGGTGAGCGCCGTGTAACCTTGTTAAATTTTGCCAAAG
AACAAAAGAAAGATTGGCAGGCTGTCCAGTACAACTCGAGTATATGTGGAATCATGACG
GCTCAGACAGTGCCCTTGCTGAAACGTATGTCGAAAAGCTCTGATGTGAATCAATTAGCTG
TAGATATTTTGGTACATTGGGAACGTGCAGGCCTAAAAATGATCCCAACGAACAAATCA
AACGAAAAACAAGTGCGAATAATTGGTATAAGAGACTGTCTACAGGTTCTATGGGGGCGAG
15 GTTCAGCCAATATTGGTGGTGGCAAAATTGATGTGTTAGAACAAATGTTAGGGCAAACAG
TCAATGGAGGTCAGTGTTATGGGGGACTTCTTATTATGTTGAAAAGATGGGCTTTCAAT
CTTTAATGAATACAGGGCATATGTTTGCCAGTGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 485>:

20 **GNMFI92F gnm_485**

CCTGCCCCGAGAATGTGGCGGAGGTATTAAATTGCGCCTTAGTTTGTCTAATTCAGCAC
GAAAAAATATCTGATGATGGATAATGCACGTTGTTGAGATAATCGCATTCATGGCATT
ACAATTTTACGGTGCCCAACCGCACAGGACGGTGGGCAGGGCGATTATTACAAGTACAGAA
CTTGCCCTAGAAACTATTTAAGTGAAATTGATTTTGGCCGTGAGCTTGTGAAAGCAAAAGA
25 TGTTGAAGGCATCGAATTAATGTATGAAGATGTGCCAGACACATTGAAACAACCTATCCG
AACAGGTTTGTGTTGCCAAAGAAGGGCATCGGTTTCATCGTGTCTGACTTTTCAGCCATTGA
GGCCCCGAGTGATTGCTTGGTATGCCAAACAAGATTGGGTATTAGAAGTATTCGGCACACA
CGGCAAAATTTACGAAGCAACAGCGGCGCAGATGTTCCATTTAGGCGAAGTGACGGACTA
CGACTGGAAGGCCACGAAGGTAAAT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 486>:

GNMFI94F gnm_486

AAGAAAATTTATTTATCGCTAGTACGATCAAAGAACGGGATCGAAAAGTAGTTCTAGCCG
AAGCTTTCCAGGTGTTCCAATTAGAACCTGCCTTACTTGGTCGTTCTTTACTTCTTTTA
35 CGACTTTTGAAAAAATTACAATGCGCCTAATACAACCTTTTGCTTTCAAAAACAAGTACGC
TCGTGATGTGACATCTTTTCTTCATTAACGATTGGACAACGTCAAGAAATTTTACCTC
AATTACCACTAGCAGTTCAACCAAGAAACAAGCGCTTGCTATTTCTGACAAAAGATCCAC
AAATTCCTTGATAGTCCCTATGTGCACCCCCCTGTCTCTACATGCGTTATTAAACTCAAGAA
AACGTCTGGCACTGATTGCTACCAGACGTTTTCTTTACGTTCTCAGTAATTTCAACATCA
40 GGAAGTGAATAATAAACGTGGCGACTTTACCAAGTTCACTCTCAACATTAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 487>:

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GNMFI96F gnm_487

CCGCTCATTAAATAAGAACAGGTTTCGGGTAGTAGTATAGAAGATGCTCCAATGTTTCGCTTG
AAATTCCTGGTAAGATATCTGCCAGTGAATAGGATAAAGTATCTTTTGTGTCGGTGAATAC
CTTATTTTCGCTATCTAAATGATACATGGCGTGAATAAGTTCATGAGATATCGTGAAATT
5 TTTTCTTTTTTCGCCCATGTTAGAATTATAAGCTAGCGTAGTCTCGTAATCATCTTTAAT
AATCATACCTGATATAGATCTACGTGCTGTTTTTCAAATGGAAAGGCCTTATTTTAAAT
TGATTTAGATGTTAATATTTTCATCCCAAATATATCTATGCTCATAATTATTAACACTCAT
TCCCAAACATAACATGTGTGCTGAAATAAATTCGTTAATGGTACCGCAAAAGTTAAGGTA
CTCGTCTACTTCTACTGTCTATCCTGAAAACACCTTGTAATTATTCACTTAAATTTTCT

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 488>:

GNMFJ77F gnm_488

CCGGCTTCTTCAGGCCAAATCAGCCTTCTGCGCGAGGGGAAGACGTTTGGAGTTGGTTTC
CAGCTGCGGAGACCACCAGCCAAGCAGCAGTGCCTTTTCGCGGTTATGAACAACCGGAA
15 ATGGTCAAGAAACGGCCTGTCGTCGTCATAGCGGAAACAGGCACAACGGCAAACCTGGTA
ACGGTCGTACCTTAAGCAGCACAGAACCTGTCCCTTTGGCGGACTACCACCACAAAATG
AGTGGAAACCCCTTACCGGACAAGCCGCACATCCAATGTTGGGCAAAATGCGACATGACG
GCAACAGTCGGATTGGCACGATTAGACCGATACAAACCCAAAGGGTGCGACCGCTGCATT
CCAATAATCAGTGAAGAGGATTTTCAGGCGATTAAAACAGCCGTTGCCAAGGCATTCAA
20 CTGTACTAGAATAAAACCGTTCCCTTAAAGGGGCTTGCAAGACTATTCTGAAATATGGGC
AGCCGCGCACGGGCGACAGGCGATGACAAGCCGTCCGTGCGTTTTATGGGGCGCGGAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 489>:

GNMFJ87R gnm_489

TATTGGCTTCATTTAATGCTCCTGAAATCCAAGCGCGTGCTGCTCAAATTGAAGATTGA
CCAATAAATTCCAAATCAGCAGCACACCGACTGTGATTGTTCGGCGGCAAATACCAAGTTG
AATTTAAAGACTGGCAGTCCGGTATGACCACGATTGACCAGTTGGTGGATAAAGTACGCG
AAGAGCAGAAAAAGCCGCAATAAGTTGAGGATTGAATGAGTAAAGGCCATCTGAAAATAG
GATTTACAGACGGCCTTTGTATTAGGCTTATAGAAGAGATGATTGCTTAAAGCCTTAT
30 GGTTTTAAATCAGAATATATAGCGGATTAACAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 490>:

GNMFK22R gnm_490

CCGAAGATGATGCTGGCTTTGCTTCTTCTATGGCCCGGTGGTGTTCCTACAGGAGGACGG
35 CTTTGGGTAATTCGCTTGTACGAGCAAGAGCGGCAGGTAGTCTCCGGGCAGGCGCAGGG
CGACATCCTGCATTTATTTGCGCGAGGAAAACAAGACGAGCGTGCCGATGGCTTCGGTGG
GCGAAATAAGCTTGGGCAGCCATTTCGATGACGGCGGCGGTGTGGGCTTCGGGGTCTTAG
GGCTGGCGTATATAGGGGGGATGTAGAGTTCGCCCTGTTTTCAAAGTCAAAGGGGCTTT
TAAAGCGGAAGGTAGTGGTTTCAGGCAGCCATTACAACCGGTTTAGCGCACATACAAGT
40 TGAAGTTACCCAAAGATTACAGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 491>:

-774-

GNMFL05TR gnm_491

5 TACTAACTCTGCTGTCGTTCTTSCAGTTACACCTGCGACAAACAGTTCAATGAGTTTATT
TGTTTATACCGGCTTAGACGACTTTTCTCATAAGGGCAACTCTAACTAATTTGGATTT
CCCTACTTATCTATGAGAGCCCTTGTTTTAAATTGACTATAATCCGCTATATTGTGAGA
AGCTGGATGAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 492>:

GNMFL42TR gnm_492

10 CAGCTCGGTAATAATTACGAATTCGAGCTCGGTACCAGATTCCTGTGCGAGATGGAGGA
GTTTGACCGCCTGATTCTGCTGATACGCAAACTGTATCAAATATTGGACGGGCAACATAT
CCTCTCCAGAGTAACGGTTTGCTTACCACCAAAACCGGCGCGACCTGATTGCCTTGGA
TAAAGCGGCTGCCGTTGCGATTGGCAATGTTGCGCGCCCAACGTTGGCTCATCTACAC
GCAAATTGCGGAACGCCCTTGCCGGTCCGGCGCGGTTTACGGTTACGGTAGAAAGCGT
15 GTCCGCCGCTGTCCGAGCTTGAAGGACGTATCTCGAGCTTGTCGCCGCGCGCGCGT
CTCTTTCGGTTTACGCAnAGATGGGAAAATCCGGCAAGCGGGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 493>:

gnm_493

20 CCTTTCATTGCTGCTGGCGGTTTCTATGGGTTGCGTATTCATGGGCGCACTGACCTACA
TCGGCAACGCACCGAACTTCATGGTCAAGGCCATTGCCGAACAGCGCGCGTACCGATGC
CGACTTCTTCGGCTATATGATGTGGTGGTCCGCTTCCTGACACCCGTCTTCATCGTAC
ATACCCCTATCTTTTTCGTTTTCAAACCTGCTGTAAACGCTATGCCGTCTGAACATTCAGA
CGGCATTTTAAATTCGGCATAATCAAATCAATATCCCCCTTCCGACAATTTATAGTGG
25 ATTAACAAAAATCAGGACAAGGCGACCAAGCCGACAGTACAAATAGTACGGAACCGA
TTCACTTGGTGCTTCAGCACCTTAGAGAAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGC
CGTACTGGTTTTTGTAAATCCACTATAAAATCTAAAGAAACCTTTTTTCCCGATAAGTTT
CCGTGCCGACAGGTCTAGATTCCCGCTGCGCGGAATGACGAAATTTCAAAGTTATGGC
GTTATCGGAAAAACAAAAATCAAGCCGGAAGAATTTATCCCAAACAACCGGATTTCAAA
30 AAACCAGATGCCCGGCGGAATGACGGATCTTAGGCTTCTGTTTTGTTTCTATAGTGA
TTAACAAAAATCAGGACAAGGCGACGAAGCCGACAGTACAAATAGTACGGAACCGAT
TCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAATGCGAGGCAACGCC
GTACTGGTTTTTGTAAATCCACTATATTTTTTCAGGAATGACGGTTTGAAATTGCCCGA
AACCCCAAAAACAGAAACCAGACAAACAGGTTTTCCGCCAAAGCCGGCATTTCGCACTT
35 TGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 494>:

GNMFP26TF gnm_494

40 CCGGGTGGATGGTATGCGCACGGATGTTTCTGAAATAATCGCTTACCGTGCTTGTGTTGT
TTGCACCGGTTGCTTGCGGATAATCGTGGGTAATGCGTTCGGCGGCATAAGCTAAATCCG
CCTGCACATAATACGGGCTGCGGCTGCCGTCTTCACTTGCCGCTGCGTGGGAAGATA
AGACAACAGACGAGAATAGAAGAGAAGAGAAGAGAAGACAAGAGAAGAGAACAGA
ACAGAATAGAACAGAAGGTTTTTTGGGGGCTGGATTCAATTTTCGACTCCGTATTCGGTTT
TAACTGATTAAGAAAGAACTTTTCAATGATCTTGAGGAGCGGACTATACAGGTTTGT
GGCGATGTTTCAACACAATATA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 495>:

gnm_495

```
5 CAGGAAGGACGCGGCATCGGGCT3ATTAACAAAATCCGCGCGTATCATCTGCAAGACCAA
  GGTATGGATACGGTTGAAGCCAATTTGGCACTCGGGCTGCCCCTCGATGCCCCTGATTTT
  CGTTTGGCGGGGTTGGTGAATCTGATTGCGTGCGGAAGCACCCGTTCCGATTCGGTGCG
  GAGCAAATGGCGGCACTTTATGTACCGTTCTGCGTGTTGAAACATATAGGCAGATAAAAA
  AGCCGCCCGTTGAAAAGCAGACGACTTATGTTTTGTGGCACTAATTTGTCCCGATAAGCA
  TTAACATATAATTTATTTATCATTATTGGTGCGGACGGAGAGACTCGAACTCTCACACC
10 TCTCGGCGCCAGAACCTAAATCTGGTGCGTCTACCAATTTGCCACGTCGCGATGGGAAT
  TGGACGATTATACAGATTTTGTTTTTTTGTGCAAGGTTTTCGGCGGGGCTGTTGATGGCT
  TGGGGTTTGGGGCGGTAAAATCTGTTTTTCGTCCGCTGACATCGGAATCGGGCGGTTTT
  TTGTTTTTATTGACGGAATTTGGGTATGCCTGCTGCTTTGATTAAGGATTTTCTGCTGAC
  TCAGGGTTTGAAGCTGCCGCTTGACGAGGTTGCGGCGGCGTATCTGACGGCGCAGACGGT
15 AATGGATATGGGGACGGCTTCGATAGACCGTTTCGGTTTTGTGGCGCAGTGATGAGGGTTG
  GAAACTTGCCGATTACCTGTCGTGCCACAATGTCCGCGAAGATGCACTGAAACGGCTTTT
  CATGGCTTTGGATTCCGTGTTTTCGCGCTCGACAGGCGTGCGGAGTCCGGCGGTCTATGC
  CTTGATGCCATCTGAAAACAGGCTTTCCAATGATATGCCTGTCCCGACAGGGCGAGGT
  TTTGGAAAACCTGTGGGATTGGGATGAAGCGGCAGGCAAGGTTTCGCTGGCTTGCCGTTT
20 GCGCGAAAGCGGTTGGATGAATGTTGCCTCGGATGTACGCCGTTGGCTGGATTGGGGGA
  GCTTTCGGGAGAAC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 496>:

GNMFP92TR gnm_496

```
25 ATCAACAGCGCGCCGTATTTTCGGTCAATCCGCGCAAGGCTTTGACAAAGGCTTCGGTC
  GGGCGGACGAGGTTTCATATTGCCGACGAAGGGTTTCGACAATCACGCAAGGCGATTTTCATTG
  CCGTTTTGAGCAAAGGCTTCTTCGAGTTGGGCGATATTGTTGTAATCGATTACCAAAGTG
  TGTGTTGGTAAAGTCGGCAGGCACACCGGTGGAAGACGGTTGCCAAACGTCAGCAGACCG
  CTTGCCGGCTTTCACCAATATGCTGTCGGAAT
30
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 497>:

gnm_497

```
35 CCAACATACAGGCCGCTGTAGAAACATGGCGGCAAATCGGATATTTAGTCTCCACTATA
  AAGAAGCAGGGGGCGGACTGTCAATACTCAACGCCTGAAAACAACCGTAAAACAGCCTGT
  TTCTTGATAGTCTATCATGCCGAAAAATCAATTCCGTGTCATTACTTTAGGGGGATTTTT
  TCCATATCGCACGATTGCCGTTGCACAAAAACAACAACACAACGGCAAAGCCCCATACC
  GTACCGGCAAGAAAATATGATAAATTATAAACAATGTTACGCCACCCGACACAGACCCAC
  ACCGACCCGCCATGAAATTACAACAATTGAAATACGCCTTAGAAGTTTACCAGCACAAAC
  TGACGTTTCCGAAGCGGCCGAAGCCTTGTTTACTTCGCAACCCGGCATCTCCAAACAAA
40 TCAAATTGCTGGAAGAAGAAATCGGCATTAGATTTTTATCCGCAGCGGCAAGCGCGTGG
  TTTCGGTCTCGCAGCCGGGCAAGGTGGTTTTGGATATTGCGGGACGTATTTTGCAGCATG
  TTCAAAACAT
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 498>:

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gnm_498

CTTGCCGATTAAGTGGGTATAACGTTTCGTGTTTCAGGATTGACGGCAACGGCAACGTCGCC
CAGCAGCGTTTCAGGACGGGTGGTCGCCACGATAACGGCTTCGGCGGGATTGTCCGCCAG
CGGATAGCGGATGTGCCACATAGAGCTGTGTCTCCCAcgtcwgACGACCTTTTCCGTT
5 TCAACCAATCCCTGCGCTTGATTATTGGTAATAATTCCTATTTAATTCATTTGTTAGACA
ACTCGTTCCTATCCAATCATGAACACCGCCGCCATCTACCGCCAGTACCAAACCTATGTC
CGCTCCGATAAATCCGGCTGGGCGTTGGACGGCTGTTCCGACAGCGCCTCATTGCGCAG
GCAAAACAGCCCGGTTTGCATCTGGAAATGTGCATCAACCGCTTCGATTTCGGGCATCACC
TTGTCGCGGATGCGCGCGCGGGAACGGGCGGTTTCCACCGAAATCCACAATTTTCAGC
10 CACAACCTGCGCCTTGTTTCGTATGGTGTTCGGGGCAGAACCGGTTACAAATGGGCGGCAGG
GAATACCGCCCATCTGCCGGCGAAATCTGACTGGTACGCGCGGATTGGCGGACGTATCC
GAAACCCTGCTGCCCGACAACAGCGGCATGTGCGCGCTGCATTTGGATTTTGTCTGCTGGA
AA

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 499>:

GNMFU01F gnm_499

CCGCCATTAACACTGGGTAAGTTAACAAACCAGTTGGGATAGCAATGGTGTATTACTAT
TTCTTTTTTTCGCTAATTTCTTTGTTTTAAATTGGGTCAATCTTTGTAATTCACCTAGAT
TACTTTGTGTCAGCATTAGATAACCTAACATGGTATGTTCCATCAGATCACTTTGTAAAA
20 ATAAGTTCACTTTTCCATAATCAAGTCTAGTGCTAATAAAGTTTTAACAGTTGCAAGT
TGTTATCTTTGAGCATTGTTGGTTCAAAATCAACAGTAATAGCATGAAGATCAGCAACAA
ATAAAAACAGTTGGTATTGACTTTGGAGTTGTTTTAAACCTTGCATTACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 500>:

GNMFU02F gnm_500

CCCGCGTTAAAACTTCCTTTAAAGTTTCAATTTGTTGTGAACCCCCCTTAAGCTTAAATT
CACTTGCAAGGTTAACCTTTTTAAGATCAACTAAATTAATTTGGTTTAAATTCAAGTTTT
TATTAGAACTTTAAAGTTTTCTTTATGAGTTACTACTATTTGTTTATCTTTGGTTAATT
GAATATCAATTCAAATACCATCAAAATCAAAAACCTGGGCTGCTTGAAATGCTAATTTGG
30 TGTTTTCTGGTGCAATAGAACTATAACCGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 501>:

GNMFU04F gnm_501

CAGTGAGTTTTTTTGACAAGAACTCATGGGCTTTTTGTGGATCAGAGCCAATCTGAACA
35 AGCTGCTATTAGCTTTTGAAATTTATATCAGGATTTAATTATTAACAACTTTGTATCCC
TGCTTTTGTGGTTTGAAAAGTGAAAGTGAAAAATTTGCAGGTGCTAAAAACACATGGAC
AATAGAAGCAATTATGCCTGATGGACAAAGTTTACAATGTGCCGGGTACCGAGCTCGAAT
TCGTAATCATGGTCATAGCTGTTTCCTGTGTGAAATGTTATCCGCTCACAATCCACAC
AACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAATGAGTGAGCTAACTC
40 ACATTAATTGCGTTGCGCTCACTGCCCCGCTTTCCAGTCGGGAAACCTGTCGTGCCAGCTG
CATTAATGAATCGGCCAACGCGCGGGGAGAGGCGGTTTGCATTTGGGCGCTCTTCCGCT
TCCTCGCTCACTGACTCGCTCGGCTCGGTCGTTCCGCTGCGGCGAGCGGTATCAGCTCAC
TCAAAGGCGGTAAAACGGTTATCCACAGAATCAGGGGATAACGCAGGAAAGAACATGTGA
GCAAAAGGCCAGCGAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCAT
45 AGGCTCCGCCCCCTGACGAGCATCACAAAAA

-777-

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 502>:

GNMFU07F gnm_502

5 GGTATTTGGTCCATTAAGGTGAGAAGTTATTACGTATTATTAACAAAAGGGTGATGTTT
AAATCAAATTCATCTTTTGTGTTGATCTTGGAATTATTTTTTCAATATAACCATCA
CCATTAATAATTGTTTGACAGATTTTATTAATGGTTTTTCACTCCACACTCCGTTAATG
TTAATGTAAGTGCAGAACTTACGTGGTTTTAGTTTTAACTGCTGGATATTTCAATATAAC
GGGATAATTTTTAACTGCTTTTTATTTGTAAATTCCTACAA

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 503>:

GNMFU08F gnm_503

CCAGAACTTAGTTTTTGAACAGATCATATAACGATGGTCATTAGGTGGTTGTTATTG
CAACCGAAACAGATAGTTCCCAAATTAATTTCTAAACGGTTCTACTAATCAAGGTACAA
GTTCTCTTAGTTGAGGAGGTACCTTGGGTACCACCATCAGACAGGTGCAAACCGTTATT
15 CTACTTATCCAAACGGAGTTAAATTTTTAATTTGGAATGATATTGCTCCTGGTTCAGTAA
AGTGAAACCCATATGCACGTTTTCTGTTGTGGATAGAAAAACGAAGTTGCAAGTCAGG
GTACCGAGCTCGAATTCGTAATCATGGTCATAGCTGTTTCTGCGTGAAATGTTATCCG
CTCACAATTCACACAACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAA
TGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCCCGCTTTCAGTCGGGAAAC
20 CTGTCGTGCCAGCTGCATTAATGAATCGGCCAACGCGGGGAGAAGCGGTTTGCGTATT
GGGCGCTCTTCCGCTTCCTCGCTCACTGACTCGCTGCGCTCGTTCGTTGCGCTGCGGCGA
GCGGTATCAGCTCACTCAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 504>:

GNMFU09F gnm_504

TTAAATCGGAAATCATCTAAAGTATAGACAAAAAGCGATAGTCATCAAAGTTATTAAGT
GCTAAATTAAGTAAATCAGTTAGTGAATTTTTAGTTTTTCTAAAGCTTGATTTGTTGA
CTCATCAAGTAAAAAGGTTTTTCATAATTGATTGATTCTGAGCTAAAGTTGATGGTTT
AAGTTATTAATATTTTTAGTAATTAGATCGCAGTTCTCATTAAGCTCAATAATTAATCA
30 TGCACATCTGTTTCATTTTGAACACTAATTCATGGCTTTAATTGTTGTTTTTAAAGC
TCATTTTTCTTTTCATATTGTTGAATTTGATTACGAAAATCATCAATATTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 505>:

GNMFU11F gnm_505

35 CCAAATTTAATGTACTAATTCTGTTAGATAGATAAGAATTGGCTACTAACTCCACCTCCT
ACTAACAACATTTTAGGGGCAAATTTTTAATTGCATTTTTAACATGATCAATGTAATGA
TCAATAATAGTAGCTTGAAAAATTGGATGCTAATTCACCTCCAATCAATTCGGGTTTTATTA
GCACTTATTTGTTTAATCTTGTTTAAACACTGAGATTTTAAACCAGAATAGGAAAAGTTA
GTTCACTTAGTAGAAGGTTTTAAAGAAATAGTGAGGTTTAACTAATTCTTTATTAAGAA
40 CTATCAATTTTACTACCAGCAGGATAATCAAAGCCCATTGCTCTGCCTATCTTGTCATAA
ACTTCA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 506>:

GNMFU12F gnm_506

5 AGATAAGAAATACAAAATTCTCATTGAACAAGAGTTAAGTAATCCCATTTCCTTAGTTA
TGAAAATGACGAATTAAGCACAATGTCAAACCAAGAATTAAGTGAATGATTAGTTCA
AAAAAGTAAATCTTCATTTTGGATGAATAATGCTGGTTTAAAACTTTAACTTCAT
TGCACCTTATCCTATTGATAAAAATGAATCTAAATTAAGTAAAGCTGTAAGTGTTC
TCAATATGATAAGCAGTTTGAACAAAGGTATTTGCAACAGAATTTATCCCTATCCACAA
10 GATTAACCAACAGATCGATGATGTCAAGATTATTGGGCAAATCTTTGAATTAAAAACCA
TGAAAGTTTAACTGGTAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 507>:

GNMFU14F gnm_507

15 CCCAGGATTGGCAATTTTATGCCTGGTTGCATCTTACTTTCTCGGGTTCTTTTAGAAG
TTATATCCCACTCCTAGTTTAAGAAATACTGTTGGTAATCACAACAGTTATGTTAATAA
TACTGTCCCTAAAAACAATTTTATGAAAAGTTTATGATCTAACTTTGCTTTAAATTT
CACTAATCAGAAACTCAAGAGTTTGGTACTGGTTGGTTAATTGACTGAAAAGGAGATGA
AACTAAAGATCTTAATACATTAAGTATGGGTACCGAGCTCGAATTCGTAATCATGGTCAT
20 AGCTGTTTCTGCGTGAAATTGTTATCCGCTCACAATTCACACAACATACGAGCCGGAA
GCATAAGTGTAAGCCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATTGCGTTGC
GCTCACTGCCCGCTTTCAGTCGGGAAACCTGTCGTGCCAGCTGCATTAATGAATCGGCC
AACGCGCGGGGAGAGGCGGTTTSCGTATTGGGCGCTCTCCGCTTCCTCGCTCACTGACT
CGCTGCGCTCGGTCGTTCGGCTGCGGCGAACGGTATCAGCTCACTCAAAGGCGGTAATAC
GTTTATCCACAGAATCAGGGGATAACGCAGGAAA

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 508>:

GNMFU15F gnm_508

30 ATCCTTATAGCTATTTTCGACGAGATCCAGCTATCACGGTCCACTAATTGGAATTTACCC
CTAATCACAAGTCATCCGCTATCGTTTCAACGAGAGTCGGTTCGGTCTCCAGTTAATGT
TACTCAACCTTCAACCTGCTCATGACTAGCTCAACCCGTTTCGGTCTATGATAACAAAC
AAACGCTCTCTTAAACTCGCTTTCGCTACAGCTCCCATCTCCTGGTTAACTAAGCCTT
GCTATCATAACTCGCCGGCTCATACTTCAAACGCACGCCATCACACATTAATGTGCTCT
GACACGTTGTAGGCATATGGTTTCAGAATCTATTTC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 509>:

GNMFU16F gnm_509

40 CCGTGAGTTGTTACGTTGTTTTAAAGTGATTCATTAGCTTTACTGAAAGCAGTTTGCT
CAAGGTTTAACTGGTGTGTTACGTTCCAGTTCTAGCTGAGCTTGACTGTGTCTTGCT
TTTGGTTTTGCAGCGCTTGAACCTGTTATCAAGTTCTAGTTTGACCTGATTATTTTTT
CAGCTAAGTTGTCAAGTTCACGTTGCTTAGCTTCAATTTGTCTAAATCTTGGTCCTTT
GGAGTTCAAAACCTGATAGTCTTTTGTAGATCACTAAAGCAATCTTTAGTTCTGTTT
CCTTTTGGGTTT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 510>:

GNMFU19F gnm_510

5 TTTGCAAAACAACCTGAATCAACAACCTGATAGCTACAGCTTTGACAGTGATTTACCTCAA
CCAACCCTTGACCAACCTTCTTTAGATGATCATGTTGAGTACAACTTTGATCACCATGAA
GAGCTCAAACCAGTTGCTGAAGAACAAAATAATTATCAAGTTGGATTTGATCAAGTTCAA
GCTAATCTTGATAATAATGAGGAAATACAACCAACTGCTGAAAAAAAGTAAGTACTGAT
TTTGAAAGTAAACAAG

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 511>:

GNMFU23F gnm_511

15 CCTGACAAACTAAATCAAAGTGAAAGATATTTTCGCTTAGCTTCAGGGCAAATTTTTTA
AAAGTTAATTTTGATAAATGTGTTTTGCAAGTACAAAAACACATCATAATCTTGCTTTA
GTTACAAAAAAATTTTCGAATTATTTCGTTGAAGATGAAAGATAAATTTAGTTTTCAAAA
AACTATGATTTCAACTTAGTTAGTGATGGGCTTTATGAAATTTGAAATAATGCTGGTTT
TTTTAAACCTAAAGATAAAAACAATTCTTTTACAGCAATTCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 512>:

GNMFU25F gnm_512

20 CAGGGTGGTTTTCTTTTACCAGTGAGACGGGCAACAGCTGATTGCCCTTCACCGCCTG
GCCCTGAGAGAGTTGCAGCAAGCGGTCCACGCTGGTTTGCCCCAGCAGGCGAAAATCCTG
TTTGATGGTGGTTAACGGCGGGATATAACATGAGCTGTCTTCGGTATCGTCGTATCCAC
TACCGAGATATCCGCACCAACGCGCACCCGGACTCGGTAATGGCGC

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 513>:

GNMFU27F gnm_513

30 ACCTGTTTCAAGTGAAAGTTGGTAGTTGTGTTCAACTGAACTAATTGCATTTCTTCTAAC
CTGAGCATCAACTTGTCTTTTCTTTGGCGGGTTTTGGCTTGCTCACGGTTTTGTTCAAA
GGTGAGAGTAACAGAAGGTAATCCCCATTAAACCAATCAGGACTTGTCAATGTTGTCAAG
TTCACTAGCAGTTTTATCATTAGTGTTTTAGTAATGTTTACAGAAGAAAAGCCCTGAAT
GAATAAACTGTTAGCATAACTTTTTTCAACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 514>:

GNMFU30F gnm_514

35 CCAGCCACTAGGTAAGTTAACCAATAGTGGTACATACTGGGCACGGGGCAAACATCGTGT
TAGGATCAAATAGTTCACTTACTGGTAAGGTGAATAACCTATTAAAGTCAATCTGGTTAC
CAGGTTTAAAGCTAATTTTTCAGTATCACTATCACTAGTTGCTCCCTGGCCATTGATAA
GGTTAACAAGGGGAGTAGATACTACGCCAGTTAGTTTACCATCCATCTTGGTAAATGTAC
TATCACCTATCCCTATTTCACTCTTATTGTTTTGTTTACTATCAAAGAAGTTTTTAAGGG
40 GTACCGAGCTCGAATTCGTAATCATGGTCATAGCTGTTTCCTGTGTGAAATTGTTATCCG

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CTCACAAATTCACACAACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAA
TGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCCCCTTTCCAGTCGGGAAAC
CTGTCGTGCCAGCTGCATTAATGAATCGGCCAACGCGCGGGGAGAGGCGGTTTTCGTATT
GGGCGCTCTTCCGCTTCCTCGCTCACTGACTCGCTCGCTCGGTTCGTTCGGCTGCGGCGA
5 GCGGTATCAGCTCACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGCA
GGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTG
C

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 515>:

10 **GNMFU31F gnm_515**

CCGATCTGAAGGCTTGGGGATTTTGTAGTGGAGTTGAAAACATGCGAGACACTTAGAGT
TGAGGATGGCTAACTCAACCCCTTACAGTATCTTTGATTATTTTAAGGGGATTGGTTAC
TGGTTATTGATGAATCACACCAAACCTTACCGCAACTTAATGGGATGTATAACACTGATC
TTTCAAGAAAGCAAAGCTTAATTGATTATGGTTTTTCGACTCCCATCTGCACTTGATAACA
15 GACCGCTCTCATTGCTGAATTACAACAAAAAATGCAAAAAGTTATTTATGTTTCAGCAA
CTCCAAGAGATAAAGAGATTAGTTTAAGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 516>:

GNMFU33F gnm_516

20 GCGAAGATGATCTTAAGGGCTTAGATTCCAATCAAACCTCAAGCAGGAAATGTTCCAGAAG
TTGAGACCGTTTTTGTTTACGAAGATGATCTTAAAGGCTTAGATTCTATTATTAAAGACG
ACCAACAACATGATGAAATTGCTAAACATGTTGAACATTTAAGTCAAGATTATTCTAAAG
AGATAAAAGATAGTGCTAAAGCAGATTTATCTAATTTCTGATGATATTGATTCAGTTT
GAAAAGAATTCGGTTCTTTTACTGATGAGACACAAAAA
25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 517>:

GNMFU37F gnm_517

GACTCTAGAGGATCCCCGTTATTAGTCACTATCCCCCTATGAAAAGACTATTTGGAGGTT
AAAATTCTAAGTACCATGGAGTTGAAAACCCCTAACTTTAAGCTAATTGATGAAAAGATT
30 GCTGAATTTAATAAGAGTAATGAAAACCTGATTGTAAACTACTTCAAAAAGAAAAGGAA
TTTGCCACAAACCAAGTTACTGTTTCAGTTTGATACTCAGTCAAAAAAGTCAGAAGAAGTG
AAAAAACCTAGTAAAAAATACTGAAAAGTTATCACTGGGTACCGAGCTCGAATTCGTAA
TCATGGTCATAGCTGTTTCCTGTGTGAAATTGTTATCCGCTCACAATTCACACAACATA
CGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAATGAGTGAGCTAACTCACATTA
35 ATTGCGTTGCGCTCACTGCCCCGCTTTCCAGTCGGGAAACCTGTCGTGCCAGCTGCATTAA
TGAATCGGCCAACGCGCGGGGAGAGGCGGTTTTCGTATTGGGCGCTCTTCCGCTTCCTCG
CTCACTGACTCGCTCGCTCGGTTCGGTTCGGCTGCGGCGAACGGTATCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 518>:

40 **GNMFU39F gnm_518**

AAGTTTATTTCTTTTCTTTTGCCTCTATTATATTTCTGTGAATGATGTGGTTTTATTTT
GTTATTGGAAATAATAACGTTATTCATTTTTTTCAAATTTTATTCAATTCACCTTTTATT
AATTAATATTTTCATTTTTGATTAAGTATTAATTTCTGGGTATCAAGGGTTATGATATT

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TATTTCTATTTTTTTATTTCTTTAATATCTATTATTTATTATAAGAACTAAAATGTCTA
TAATTTTGTTTCATAAAAAGCTTATAATTAAGCATAAATGCTTAATTATAGTAATAATTAA
TACTCTCTAAAATAGATACTATTATATATAACAG

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 519>:

GNMFU40F gnm_519

CCTGCAACTAATTTAATTGCTTGGAGACTGAATGCAATCCAAAGTGGCAATATTAAACCT
TCAACTACTTTTAAAGTTGGAATTTGTTAATTTTAAACACCAACAGAAGTTTGATTTAAAT
10 TGTTTAAAAATGAAAGTGAATCACTGCGTGATTTCCAATCACAGTTTGAGAGAATCAAT
AAGTTAGTGGAAGGGAGTTTGTTAAGTAACAATGTTAAGTTTAGCACAAATAGAAAGTT
GGTTTTTTATCGCTCCAGCACTGCTTTTAGCAGTATTGAGTGGTTATCTCGCTGAACGCG
TTGGGATCATTAAATATTGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 520>:

- 15 **GNMFU43F gnm_520**

TTTACTGTGGTTTGGATTAACTTATCCTCATTGAATTTCACTGGTAGTGCTGCAGTTCTG
TGATCCTGTCAAACGATGGCATTATAAACAGGCAAACCATTTTCTTTATTTTCATAAACT
ATTGTTTCTCTTTGATTGGTAATACCAACTGCAATCACTTCATGAGATTTGATTTGTGCT
TTATTTTTAGCACTTTGCATGGTAGCTAGTTGGGCTGATCAAATTTCTAGTGGATCTTGT
20 TCAACTCAACCACTATTAGGAAAAAAGTGTTAAATTCGTTTTGTGCTATTGCTATTTGG
TTAAGATTGTGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 521>:

GNMFU45R gnm_521

25 GTTGATGGCGAGATAACGTTTGTGTAATCTGGACACGTAAAATCTAAAGAACCGTTTTC
GAGGGCGATGTAGCGGTGTGCGGCGCAACCAAAATATTGCCGGGGTGCAATATCCGCGTG
GAAAAAGCCGTCGCGGAAGACTTGCCTGAAGAAGATTTCCACGCCGTAATCGGCGAGTTT
GTGCAATCGATGCCGTCTGCTTTGAGTTTGGCGATGTGCGAAACCGGCGTGCCGTCCAT
CCATTCGATGGTCAGCACGTCGCTGGTGCAGTAGTCGTAACACCTTCGGCACAATCAG
30 CATATCGCTGTTTTGGAATTCGCTCCGAGCTGGCTTGGCATTGCCGGCTCGCGCATCAA
GTCCAACTCGTCGTGCAGATTTGTGCAACTCCGCAACCACTTCGCGCGGCTTCAGACG
CTTGCCGTCGGCAACAGACGCTCGACCCAGCCTGCACCAAGCGCATCAGCGACAAATC
CTGTTTCGATCAGGGCAAAAGGTTGGGGCGCAAACTTTAACC

- 35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 522>:

GNMFU45F gnm_522

TAGAGGATCCCCTGATCCACTGTTAATTGATCAAATGCATTTAAGCCAATAAGCTAAGGG
GCAATAACTTTTATTAACGTTATCAACGGCTTCGTTAACGCCTTTACCAAAATAATTTTTT
GGATCATTATCACGTAATTCAATTGCTTCTTTCTCACCTGTAGAAGCACCTGATGGAACC
40 ATCGCTTACCTACATGACCAGATGCCAATTTAAACAACAAGCTACTGTTGGAACACCC
CGAGAATCAAAAACCTTGATAAGCAAAAATATCGGTTATTTTTGAATTGATGTTTAGATT
GAACTTCCCGGTACCGAGCTCGAATTCGTAATCATGGTCATAGCTGTTTCTGCGTGAA
ATTGTTATCCGCTCACAATCCACACAACATACGAGCCGGAAGCATAAAGTGTAAGCCT

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GGGGTGCCTAATGAGTGAGCTA~~ACT~~CACATTAATTGCGTTGCGCTCACTGCCCGCTTTC
AGTCGGGAAACCTGTCGTGCCAGCTGCATTAATGAATCGGCCAACGCGGGGAGAAGCG
GTTTGCGTATTGGGCGCTCTCC~~3~~CTTCCTCGCTCACTGACTCGCTGCGCTCGGTCTGTC
5 GGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCGGTAATACGGTTATCCACAGAATCAG
GGGATAACGCAGGAAAGAACATGTGAGCAAAAAGGCAGCAAAAAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 523>:

gnm_523

CCCCGTTAAAAGCCTTTGATTATTC~~CAA~~AGCCTTTTGAATAAGGCGTGGCTTCACGTAAAT
10 TAGGTCAAAATTTTACGGTTAATTTAAGCGTCATTA~~AAA~~AGAAATTTTGTCTTTGTAAAA
ATTTAAATCCACAAGCAATTGTTGAAATAGGTGTTGGTAAAGGAGCGTTAACAAATTATT
TGTTAA~~AA~~CTCAA~~AA~~TACCTTACAAGGGGATAGAAATTGATAAACGCTTAATTGAATATC
TTCTAGTTGAAAAGATATTA~~ACT~~GAAGACCACTAGTTAAAGGCGATATTCTCAA~~AA~~AGG
ACTTTAATAGTTTTTTTGA~~AA~~ATTTAAGTCCATTGGGTACCGAGCTCGAATTCGTAATCA
15 TGGTCATAGCTGTTTCTGCGTGAAATTGTTATCCGCTCACAATTCACACAACATACGA
GCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATT
GCGTTGCGCTCACTGCCCGCTTTCAGTCGGGAAACCTGTCGTGCCAGCTGCATTAATGA
ATCGGCCAACGCGCGGGGAGAAGCGGTTTGGCGTATTGGGCGCTCTTCCGCTTCCTCGCTC
ACTGACTCGCTGCGCTCGGTCTGCTCGGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCG
20 GTAATACGGTTATCCACAGAATCAGGGGATAACGCAAGAAAGAACATGTGAGCAAAAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 524>:

GNMFU50F gnm_524

TGGCTTTTGCAATGCAAACATCCAAAACCACACATAACCCTTTGTTAACCAATCAATAGT
25 ATCAGATAAAAATCCAAAAATAAACC~~CC~~AAATAGGACCAAAGATCCATCCGAACAATGC
AAAGGGAATCCTTAGAAA~~ACT~~TAATGCTTAATACATTAGTAACACTAATTGAAAAGATAGA
AAAGATAAAGGTTAGTGCTAATAAAACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 525>:

30 **GNMFU51F gnm_525**

CTAGAGGAGTCCCAAGTTTGAATCGTCATTTAACAAGAAATGA~~ACT~~TGAGAAAGCTTAA
TAA~~AA~~ATTCGCTCTTTGATTAAACAAAAATAAGCTCAA~~AA~~AGAGATTTTACTGATTTTGA
AGGGAGTCAA~~AA~~ACTAAATGCAATTGCTTATTTGAAGAGGAATATTCTCAACATGAAAT
ATTAAGAGTGATCCGCTTTGGTGATTATAGTGTTGAGTTGTGTGGTGGCACTCATGTAGC
35 TAACACTGCTCAATTGAAGATTGTTTATTACTGATTTCTATTCTTTAGGAGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 526>:

GNMFU53F gnm_526

GGAGCATTTAAAAACCAATAAACACCAACTCCAGCAGCACTAAATGCAGTAATAGCAGCA
40 AACACAAAGTAAAA~~AA~~TTAATTGCATCTTTTAGTTTTGTTGAGTTGTTCAATACTTTT
TGAGAAATGGGCTTTTCGATTCTCATTACGCTTACTTGCCACACTTGAGGAAGTTTTGA
GAGAGAAATTGGACTGGTAAACAATCACTAA~~AA~~AGATGCATGACAGGTCA~~CC~~CAGTTGT
AGTGAAATTAGAGACAATTTCTGTAAAGGTACTTTTGAAGATCCCAAAGTTCAATAA

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GATGATTGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 527>:

GNMFU55F gnm_527

5 CCCAAAGTTACTCAAGAACTCGCTTAGAAAATATTAAGGGATGGAAATAAATAGAG
CAAATTTATCAAGAACTGAGGGTTGTAAGAAGAGATGCATTACAAATGATTAAGAAAGAT
AATCACAATGAGGATTTAGAAAACCTTTAAAGCTGAAATAGAAATAATTAACAAAAAT
TATTCTAATCAATTAGAAGAGATTCAAAAAGACAAAGAAGAAGATTGCTAACAATTTAA
10 ATGAATGAAAAGCAAAACAATTCATCAAAAAGCGAACTTCAGTATTCATTGCTTTATTA
GTTGTATTTTCTTTTTCTTTAATTAGCGCATTGCTGATGGTTTTAACTTTTGATCA
CCGTGATCAGCAGATTTCAATTCAAGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 528>:

GNMFU56F gnm_528

15 TTTGGAATCAACTTAAGTATGATCACATCAAAATTGTTTCAGAGACCCAGATGACGCTA
AGTTAAGTGATGCCACCTTTGTTATTTTGATATTGAAACCACTGGATTACATGGTAGGT
ATGATGATGTTATTGAGTTTTTCAGCAGCGAAAATTAAGAATAACAGCGAGATAGATCATC
AGCAATCTTTTTTAAATTTGACAAACCTATCCAAAAACAATCACTGAAATCACCAAAA
20 TAACTGATGAGATGCTTGAAGCGGTATTGATCAACAGCAAGGTTTGAAGAAAGATAAGAA
ATTATCTAGATGATTGTGTTATGGTAGCTCATAATGGTATTAATTTGATTACCCTTTT
TGCAAACTCAATTTGAAAAATA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 529>:

GNMFU57F gnm_529

25 CGGTCATTTTACTACGGTGTAACCAACGTTTCATTGCACAGTCGAGGATTTCAATAATT
TTAAATTTTATATTTTATTATTACCACATGCGACTTGAAATAGAAACCGGGCTTGAATT
TGTCAATGATCCTGTGGTAAATGAACCTGGCAAGATCTGTTTTTTTCTCCTTTTACAGG
TAATTTAACAAACAACTTAGTTTCAGAAGTCATTTCAATAGATACATTTTATGCCAT
30 TAACTACCCAGGGCATGGTAATAGTGTTATTAACAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 530>:

GNMFU63F gnm_530

35 CAAAAATACACTAAAAAACAGTTATTATCCATGTTGGAACCTCTATTGGAACCTGGGAA
AGGTTTATTGCTGCTTTACTTGAAAAACAAGTGGTAATTTTCCTTTATGGTTAGCACCT
GTTCAAGCCGTAATTATTCCTGTTAATATCCAAAAGCATTTAAAGGCAGCAAAAAAATT
TATAACAAATTGCTAAAGAAAACATCCGTGTAATTTAGATGATAATCAAGATCGCTTA
GCTAAAAAAGTTAGACAAGCAATCATTGAAAAATTCCTTTACAACCTATTGTTGGAGAT
AAAGAAATAGAGAATTTAGAGAAGTTGACATGCCGTGGTTTTAAAGGTGAAAAA

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 531>:

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GNMFU64F gnm_531

GGCCCTGCTGGTTATATTGCTGCGGAGTATGCTGGCAAACATAAACTTAAAACCCCTAGTG
ATTGAAAAGCAATACTTTGGTGGGGTGTGTTTAAATGTTGGGTGTATCCCAACTAAAACG
TTGTTAAAAAGAGCAAAGATTATTGATTATTTAGTTCATGCCAAAGATTATGGTATCACT
5 ATTAATGGTCAAGCTAAACTTGATTGAAAACAACGTGTTAAACAAAAACAGGAAGTAGTT
GATAAATTAGTTGCAGGGGTAAAAACAATTATTAAGGGTGCTAAGGTAGAAAGTATTGAA
GGGAAGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 532>:

10 **GNMFU65F gnm_532**

CCAAAAATGGTTTGGACCATTCTTGGTAAATTTCTAATAGTCGGGAGTTnTCCCGTGGTG
TTTGGTGACATTTGCAATAGGTTGTATAAATAATCTAAATTTGGATAAAAAATTACTTTGA
TTATTGGTTGAAATATTAAAGCTTTTAAACGCTTCATTTTATCAATTGATTCATCAATT
15 CTTTGATTAAATAAACTAACTTCTTAAATTGCATTTATGAATTTATCTTTAAATTTAATA
GTTGGTTTAATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 533>:

GNMFU68F gnm_533

GGTCAAAAAGCAGCTTTAGAACGATTTAGCAATTAGTAGTGGAACCTTAGCATATAATAA
20 CGAAATTAATAGTGGTTTTAAAGATGTTACTGTTGATAATTTAGGTGATGCTAGAAAGGT
TCAAATAGCTAAAGAAAAACTACTGTTATTGGTGGTAAAGGCAATAAGGATAAAATCAA
AAAGCATGTTGAACCTTCTAAACGGAAGATTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 534>:

25 **GNMFU70F gnm_534**

TTGGTCCCATCAATTGGTTGGTAAATTTGGGAGGATGTACAAGAGTTTCTATATGCATTG
CCGGTAGTGAGTTTAAATCCAGTTGAAGCATTGGGGCTGGGATTGTTGTTTAAGCCAATG
GAGTTGCGCATCGATCGTCACTGATTTGAATTTGAACCAAGATGTACCTCTATCTGGCTT
30 TTGCCCTTTGTTTGGCCAACTACTGTTTAAGGTATATTTAGTCAAAGGTTGTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 535>:

GNMFU71F gnm_535

CCCGCCTTCAGCGCCAAAACCATTACAACATGACATGAACTTTTCTTTCATATTTGAT
GGTTTTGTGCAACCATTAGTCATTTCAAAAAAGTTAATTTCAATTACTAAAGCAATATC
35 AAGGTTATAGGGAACAACAATTTGTTGTTGACGTTTTTTAGAACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 536>:

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GNMFU73F gnm_536

CTACTGTTTTTTCATTTGAAGCGGATTCAACTGGCAGAGCACTAGTAAATACTCTAGTAA
TTATTTTGATTACTATCACCATTACTTTTCCACTAGCACTTTTAATTGCAATTTGACTTA
ACGAGTACAATAATTCAAAAGTGGTTAAAAATGTTTTAACTTTGTAATTGATTCATAA
5 GTTCAATGCCATCTATTATTTATGGATTATTTGGACTTTCTTTCTTTTAAAGAGTCTTGC
AGTTAAGTGCTGGAGGAGCTAATGGTACTAGTTTAAATAGCAGGCATTCTAACTATTAGTG
TTGTTATATTACTCTTCCGGGTACCGAGCTCGAATTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 537>:

GNMFU76F gnm_537

CCCCCAAAGATAAAACCCCTCGCTTCAGGACATACTATCGCTTCTGCATTAATAGCTTTA
ATAAACTGTGCCATTTGGGTTAGCACAAAATTAAATAGTTGGGGATTGGAAAATACTGGG
GTAATGTCATAAAACAATGTACCTTGGTTGGGAAAATTTCAAAGCGCTTGATTGCTTGA
TCAAGCAACTTAAAGTTTGTATCCATAAATATCTTTTTTTTAAAACTGTTAATTCCTGC
15 AATTAAGTGCTCTTCAATCTGATCAATCTCTTTAAAAGGATGTTTTTGTGTTTAAAGCT
CAAACGGGAATGAACATAGTTGAAAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 538>:

GNMFU77F gnm_538

GACATCTTCTTTTCTATCCAGGGATAGTTACTTTTAAAGCATGGTGAAGCACGGCATGAAG
CTTTAAAGATTATTCCTAGTGAATTACTTTTAAAGTGAAGTGAAGTCAACCGTGATTAACCCC
TTCTCCTTTTCGAGGCAAAGTTAACTGACCTGAATATGTAGTTCATACTGTTAGCACTGT
TGCTGAAATAAAAAAATAGAAATTGCTGAAATGAAGCGAATTATTGTTAAAAATGCAAA
AAAATTATTTTGACATTAAAAGTTAAATAAAGCAATTTATTTAACAAATGGATGTTAGAA
25 CTGAAAGATTAAACGAATTGTTTTTGTGTTATCATAAAAACTTAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 539>:

GNMFU78F gnm_539

AAATTACCTTGCGTTGACAAACAAGATATTAAACCAGAAGAAGCAGACGAACTTAAAAAG
30 CGTTTTGTTGAAGTTGGTGCAACTGTTGAAGTTAAATAAAGATGGCAGTACAACAACGGC
GTTCTAGTAAACACCGTCGTGATAAAAGACGTTCTCACGATGCACTTACTCTACAACTT
TAAGTGTTTGAAGAAATGTGGAAGAAGAAGTTATCACATCGTGTGTGCTCTTGTGGTA
TGTACGGTGAACCTAAGAGTTAAAAAAGCTCACTAATT

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 540>:

GNMFU83F gnm_540

AGTTAGTTGTAAATTCGCTTCAAAAACACCAAAAGCTCACCAAAGAAATAGACCTTGATT
TCACCAAGCTTGATGAGATTATGCAACCATTTTGTATGAACTAAGAATCCAAAGACTG
GCTTTACTAACTTCATTAAGCAGTTTGAAAAACCAAGCAAACTAACAAAAAGATAG
40 CTGAAATTACTAACTTGATCATTCAACGCCAACAAATTATCA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 541>:

GNMFU84F gnm_541

5 ACTAGTTTCATGGTAATCAAAGTTAATAGGATCAATTCCTGCATAAGCAGTTTTAGGTAA
AGTACTGGTTTGGATAAACACCATTGCATCTTGTTTTAAACGAGTTTGAAGTTGGTAGTT
CATCTCTTCTGGTTTGGAAATTATCTTAGGATTGGCAAACCTACCCATAAGAATGATTG
GGTTTTTTGATCAAATGGAAAATAAGACCATTCCATCTTTATTGTATGGTTGATAATC
ATGATCATTCCTTTAAA

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 542>:

GNMFU86F gnm_542

15 CAAGAAAAATAGATCAGTAGGATCAATCCTTTTTTATGTACCTAGTTTTATTCTGATTAT
TGCTATTCTAATTGGTCTTTTGTGCTGGTAGTTTATTGTTGCAAGATGTCAATAATTA
TCGTGATTCTGCTTGGGAAGTTAGTTTATTTTCTCACCTAATTTAATTGCAACTTTTTT
TTCAATTTTGTTAACAGGAACAGTAGTTAGTTATCTTTCCCTCGTTATAATTTTGCTGA
AATTAAAGTATTTACTGATAAGCTTGAAGAAGTTAGAAAAGCATTGTTAAGTGATAATGC
TAATCACAGTTTATCTATTCAAGAAACGCTTGGTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 543>:

20 **GNMFU89F gnm_543**

CTGGTTATTCTTGGCCTTTTTAGCGCGGTAAATGGTGCACTTATTTTTGGAGTTTTTT
AAAGCTTTGTTTCACAATTTAAGCCAACGCTTTACTTCGTTATGTGCTTCTGTGAGGG
TTGGGGTGAAGTAAAGTCAATCCCTAAGAGTTAATGGTTTCAAGTGGCGCTAAACTAGA
25 ACCTGAACTGAGGAATTTAAAGTAATTATCTTTTCATCTTTTATCACCACTATTAATTTT
TTTAGCTACTAAAATACCTGCAACTTGGCCAATGGCATACTTGTAACATAGAAGTTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 544>:

GNMFU91F gnm_544

30 ATGTAACAGTGTTAATTTAACAATAATGAAAATGAAATTAAGTTAAACAACTAAAA
AAACAATGTGTGAAAGATGCTGAAATTTTCAAACAATCATTAAAGCCAAAATTAGATCATA
ATTTGTGCTCACGTTGTTTTAAAGTGTGTTAAAAAATAATTGTGAAAAGGTTTTTCAGAT
CTTAATCAGATTGATATTTCTCAAGCTTGAAGTTTCTTTCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 545>:

35 **GNMFU92F gnm_545**

GGCAAAACCCTCTTAACAATCTTTGTACACAAATACTATGGCACTGGCAATAACAATAG
CAATGATAATGCTAAAGGGTAAAGAGATTAGTGAATAGAGAAAATATTGCGTAACCCAA
CACAAAGTTAGATTCACTAACAGATCCTGAAAGGTTGTAAGTTAAAGGATTGGGAGGA
40 GAGATCATACAGATCACTGTTAGCACTAAAACCCTTCTGTAAGCTTAAAAAGAAGGGGAT
AATGGTAAACAAAATTGTTGTTAAAGCGCAGGGAG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 546>:

GNMFU93F gnm_546

5 ACCTTTTTCGCTTTTAGGTAGTTTAAGAAAAGGTTATATGCTAGATGAAATGCTCTTAGA
ACAGTAAATATTTGCTACAATCATAACGCTTTAGTTTTTAGTTGATACACCAAAATCCGT
AGTCAATTTATTAACCTAAGTAGTGAAGTAGATTTTGATGAATAGCGCTGTAAAATATCCT
GAGCTGAAGATCAAACCTGAGTCTTATGATAGCACCCTTTTAGATCTCGCTATTAAAAAG
ATAGTTGAGGTTGTAAAGGGTGTGAACATTAAGATTAAAGGTCCTTTACCTTTGCCTACT
AAAAAGGAAGTGATCA

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 547>:

GNMFU94F gnm_547

15 TCCTAAGTTATTTGATTACTTTAACCGAATTTGTTGATATTGGTGATCAAATTGTTGTTA
GTGGTAAGCCAATGTTAACTAAAACAAAGGTATTAACCTTAGCTGTTGAAGAGATGAAAA
TCATTGCTAAGTGTTTATTGGTTCCACCTGAAAAGTGACATGGACTTACTGATATTGAAA
CCCGCGCTCGCAAGCGCTTTCTTGATCTTACCTATACTTAGCAATGCGTGATGTTTTTC
TGAAACGCACTAAGATTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 548>:

20 **GNMFU95F gnm_548**

CAAAAATGAAGTACGATCCACGGAGGAGGAGTTGATTTAAAGTTCCCCACCATGAAAA
TGAAAATGCCTTACACATGGCTTTATATAACCGCCATTACCAAAACATTGGATGCATAT
TGGTCATTTGATGATTGAAAACCAAAGATGTCAAAGTCATTGCAGAACTTCTTGTTAGC
25 AGTTGATTTTCTTAACCTTTCATGATTTTCGTGTTTTGCGTTGGATCTTTACCAAAAACA
CTATTAGCATCCTATTGATCTAAACCAATCATTGATTGAAAAGCTATAATGATATTCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 549>:

GNMFU96F gnm_549

30 AACCTAGTGAAGCAATTGAAGCAGTATTGAAATATTGGAGTTTTCATCAGGACTTAAATT
TCATTCTGATCGGTGATGAAAAGGCTTTTGATGGTCTTGATATACTTCCAAAAAATATTA
CAAAAAAAGCTGCTAATTCCTTTCATTGAAATGACCGACACTCCACTAAGTGCAAGAAGAA
AAGTTAACAGTTCAATGCAAATAGCCATAAAGTTAGTTCGTGAAGGTAATGCTGATGTTG
TAATTTGAGCAGGCTCTTCAGCAGTTTATGCTTCTTTAACAAATGATGCT

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 550>:

GNMFW16TF gnm_550

40 CAGGCATTTATCTGGAAATAACTGAAACCGAACAGACCTAGATTCCCGCCTGCGCGGGAA
TGACGGCTGCAGATGCCGACGGTCTTTATAGCGGATTAACAAAAATCAGGACAAGGCGA
CTAATCCGCAGACAGTACAGATAGTACGGAACCGATTCACTTGTTAAAGAATCGTTCTCT
TTGAGCTAAGGCGACGCAACGCCGCTACTGGTTTTGTTTCATCCACTATACTAAGGAAAT

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5 TCAAATTAAGTTAGAAATATCCCTATGAGAAAAAGCCGTCTAAGCCGGTATAAACAGAAT
AAACTCATTGAGCTATTTGTGCGAAAGTTCAAATTTCCATTTTAAACAATTAGTAAAATC
GAGTTTATCCTAATTGTCCAAGACAACCCCTATAATACTATAATTGAGAATATAAAAATG
GGTTACATCTAAACATTACGGAATTTTATCCCTCGCCTGAATTCTATTGTCAGATTCA
ACGAGACCTCATGTCAACGACTCCAACCTTCCCTACACAGACTTTCAAACCGACTGC
CATGGCGTTAGCTGTTGCAACAACACTTTCTGCCTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 551>:

GNMFW46TF gnm_551

10 TTGTTAATATATTTTCGCGATTAAACGTTTCTTAATATTAATTCGGGTACAATCCTTTCCG
CTGATTACCGCTGCCGTTTCTCCCTTTTCGGCAGTGCAGCAAGTAAGACGTTTCCCGCA
ATGTATTGACCATTCACTTACCCTTGGTATGAATGGTTTTTTTGCACGTTGAAAATG
CCGTCTGAACGTTGGGTACCGAGCTCGAATTCGTAATCATGGTCATAGCTGTTTCTGTG
TGAAATTGTTATCCGCTCACAATCCACACAACATACGAGCCGGAAGCATAAAGTGTA
15 GCCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCCCGCT
TTCCAGTCGGGAAACCTGTCGTGCCAGCTGCATTAATGAATCGGCCAACGCGCGGGGAGA
GGCGGTTTTCGTATTGGGCGCTCTTCCGCTTCTCGCTCACTGACTCGCTGCGCTCGGTC
GTTTCGGCTGCGGCGAGCGGTATCAGCTCAATCAAA

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 552>:

GNMFW72TRC gnm_552

AACCGCTCTGCCGTCATTCCCGCACAGGCGGGAATCCATACCTTAGCACAAACAGTAATAT
TCAAAGATTATCTGAAAGTCCGAGATTCTGGATTCCCGCTGCGCGGGAATGACGAATTT
TAGGTTTCTGATTTTGTGTTTTCTGTTTTGTGGGAATGATGAAATTTGAGTTTATAGGAA
25 TTTATCGGCAAAAATAGAAACCGCTCTGCCGTCATTCCCGCTCAGGCGGGAATCTAGACC
TTAGAACAACAGCAATATTCAAAGATTATCTGAAAGTCTGATATTCTACATTCCCACTTT
CGTGGGAATGACGGGATGTAGGTTCTGTTGGGAATGACATGGTGCAGGTTTATGGGAATGAC
GTGGTGCAGGTTCTGT

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 553>:

GNMFY91F gnm_553

GTGCGCCGATTTTCAAATCTGTTTGAACACCGCCCAATCCGGTTTGCCGAATTTGCGCCG
TCAGTCCGAATGGGCGGAAGAAATTTTCTTGGCGATATGAATCTCCTTTGGCCGAGTCT
GCCGCTTCTCGATCTGTTTCGGCGCCAGTCCGCAGCCTGCGCCGCCCAAAGCGGGCATA
35 CGAATTTGCCGTAAACGAAATATAGTTTACGCGGCACGTTCAACACAAACGCCGCAAGC
TGACCAACATAATCAGGCGCGGGCGGTTTTCAGGCTGGAAGTGTAGGCGTGCAGCGCGCGGT
GTACCATTTGCCGCGGCATCGCCAAGCTGGTGAACAACATATACTGCGCCATCGTGCCCTT
CCACATAATTCGCTCAAGGTCAGCCAGTTGCGGAAGGCGTAATCGCCGCCACATCAAGAC
CATGCCGAACACGCCCAAACAGCCCGAACCAATCCCTGCGCCCGCGTTTCGCCCCAC
40 TTCGTCGGTTTTACCGCGCCGTAAGCTGGGCAATCATCGGGTTTACGCGCGCCATAAT
GCCCATAAAGGTAATATAAACCGTGGCAACGCGCTGCTGCCCAAAGCCAACGCCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 554>:

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GNMGA51TR gnm_554

AAATTATTTTATTTTGTATGAAAACCTTCGAAAAACATGGTCTGCACAATATCGGGAT
 ATGGAAATTTTCAGTACGGAATTTTGGAAATTTGGAGCGGACAAGGGCGGAAGTCTATATC
 AACGGAAGGCGGGTTTATCATAACGAAGCCGAAATGGCGTCTGCTTCTTTGCGTTAGCTA
 5 ATGGGGGAATACCTGGAATTTGAAGAAAGCGGTACGAAAATTACCGTTGAAATCGGCAGC
 GCGTGGCATTTTAATGAACTATAAGAAATATTAATACACATTTAAAGAGGTACGAACT
 TC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 555>:

10 **gnm_555**

AAAGACGGCGTTGATGGTTTTAACATTTGCGCTCATTTCGGATTTGAGCCATGGCAATCTT
 CCTTTAATGTGGTGGAAATCATGAGTGTGCGGACACTGTACTGCTGCCTCCGGTCGAAC
 TGCCGTTTCGGGATATGGCAGACGCATCCTTCCTAACCGCATCCGAATACCCCCAAACCT
 GACCGAATGCAAACTGCTGCGGAAACGGTTTGTATGACACTTCTACTACTGGATGTTG
 15 CGGGCGCATTATAATATTTTTCCATCCGTCTTGAAACATTTATTTACACTTTATTTACAC
 TGCGGCGGCAAAATCGGTATACGAGCGTCAATACACGTTAAATGGCGTTTGCACCAAGTT
 TGGGAGTGATGATGGAAACACAGCTTTACATCGGCATCATGTGCGGAACCAGCATGGACG
 GGGCGGATGCCGTACTGATACGGATGGACGGCGGCAAAATGGCTGGGCGCGGAAGGGCAGC
 CCTTTACCCCTACCCCGGCAGGTTACGCCGCCAATTGCTGGATTTGCAGGACACAGGCG
 20 CAGACGAAGTGCACCGCAGCAGGATTTTGTGCAAGAACTCAGCCGCCTATATGCGCAAA
 CCGCCGCCGAAGTGTGTGAGTCAAAACCTCGCACCGTCCGACATTACCGCCCTCGGCT
 GCCACGGGCAAAACCGTCCGACACGCGCCGGAACACGGTTACAGCATACAGCTTGCCGATT
 TGCCGCTGCTGGCG

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 556>:

gnm_556

CTAGAGGATCCCGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGGTAC
 ACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGA
 GTTGGTAGCTCTTGATCCGGCAAAACAAACCCGCTGGTAGCGTGTGTTGTTTTGTTTGC
 30 AAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGGTACCGAGCTCG
 AATTCTGAATCATGGTCATAGCTGTTTCTGTGTGAAATTGTTATCCGCTCACAATTCCA
 CACAACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCTAATGAGTGAGCTAA
 CTCACATTAATTGCGTTGCGCTCACTGCCCGCTTTCCAGTCGGGAAACCTGTCGTGCCAG
 CTGCATTAATGAATCGGCCAACGCGCGGGAGAGGCGGTTTGCCTATTGGGCGCTCTCCG
 35 CTTCTCGCTCACTGACTCGCTGCGCTCGGTCTGCTCGGCTGCGGCGAGCGGTATCAGCTC
 ACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGCAGGAAAGAACATGT
 GAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCTTGCTGGCGTTTTTCC
 ATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAAGTGCGGAAA
 CCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTG

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 557>:

GNMGJ04R gnm_557

CATTCCATAGTTTGCCTTTTACTCTGTTAATTGTGTCTTTTGGTGCATAGCAGTTTTAA
 AGTTTGATATAGTCTCACTTGTCTATTTTGTCTTTTGTGCTGTGCTATTGGTGTGATA
 45 TCCAAGAAATTATTGTTATATCCAATATTATGAAGCTCTTCTGTGTTTTCTTCTAGG

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AATTTTATAGTTTTTATTTAATGTTTAGGTTTTAATCCATTTAGAGTTAATATTTG
 CTTATGGTGTAAAGATAAAGGTCTAATTTCACTTGTTTGCATGTGGATGTCCAGTTTTCCC
 AGGGCCATTTGTTGCAGATTGTCTCTCACCCATTCTTTCTACCTTTAACACTGCTGTG
 5 AATGGCCTTTATTTTCTACCTTACACCATTGACTCTCTCCTTCTAGAAAAAACCTTT
 CTCAATCCCACCTTAAACTCATTAGTGGATTGCATTGGTCTGGATTATCAGAGGTTTCTG
 TAATTAGGTTGGCTGTGCCAATAAATATCTTCATGGATATCCTGAATTTGTTTGTATAA
 AGAAGAAATAGGCAGATGACATTGGTAGTGGATCGGTGAGAAATTTGCAATAAACTCAA
 ATGTGCAAGATGTGCCACATTTGTGTTTCTTTCTCAAATTACAAATATTGGATTGCG
 CTCCATCCGTCACAATTTCTGGGCAATTCAAA

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 558>:

GNMGK65TF gnm_558

AGCATGGGCAGCGTATCGGCGGCGGCGGCAAGAAAGCTGCCGCGGCAACACGACCAGT
 CCCGCATAAATGGTTTTCTTGCGCCCGAACTTGTGGAAGCGATGCCAAGGGAATTTGA
 15 ACAAAACCCGGGCAACCCCTTAATGGCCAATGGCAACCCGACAACGGTTTGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 559>:

GNMGL93TR gnm_559

CGTCTGAAGGCTTCAGACGGCATTGTTGCGTTTGTGCGGCGGTGTTTAGGGGGCGGTAAC
 20 GGCGTGTTTCGGCACTTTGTCCATATCCAGTGTCACCGCCAGTCGAGCAGTTTCGGC
 AGGGCGGTGCGTTTCCGGTGCTTCGGGCAGCTTGAGGTAACGGAACACTTGGCGGATGAG
 TTGTTTCGCGCGGTTTAAAGCCAATGCGGGGCGAGCGTCTGTTTCGACCAGTTCTGCCC
 TTGTGCGTTGGTCATCAGCGGCAGGTGGGCATATTGCGGTGTCTGAACGTCCAAACACTG
 CTGCAATAGGTTTGGCGCTGCGTGGAACGAGCAAGTCTTGTCCGCGGACGATGTGGGT
 25 AACGCCCTGTTTCGGCATCGTCGGCAACGACGCGAGCTGGTATGCCAGTAACCGTCTGC
 ACGACGCATGACGAAATCGCCGATGTCGCTGGCCAGGTTTTGGGCGTAACCGCCGACGAT
 GCCGTCTGAAAAGCCGATAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 560>:

GNMGO35TF gnm_560

GAATGACATATTCATAAGTTTCCCGAAATCCAACATAACCGAAACCTGACAGTAACCGT
 AGCAACTGAACCGTCATTCCCACGAAAGTGGGAATCTATAAATGAAAAGCAACAGGCATT
 TATCGGAAATAACTGAAACCGAACAGACTATATTCCGCGCTGCGCGGGAATGACCGCTGC
 35 AGATGCCCCGACAGTCTTTATAGCGGTTAACAAGTGTCAGGACAAGGCGGCTACGCCGCA
 GACAGTACAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 561>:

gnm_561

AGCATGGCGCACAGCAATGCCGTCTGAATACGCCTCCGCTCGGTACACGGCGAGATCGG
 40 CAATGGCAGCGGTACTTTGGCCCGCATATGCTTAAGTTCAGTAACCTTACGCCACCAA
 ACCCTTGCTAGCTAAGGGTTAAACAGCTCACTTGAAATCTACTTAAGTCTAATCTAACT
 ATCCAATATGGATAGATTTTTAAACATAGGGCAAGCAGCAAAATTATTGTAGCTGAAAGC
 ACAATCACTCGCTGGTGGTCTCAAACACGTGCCGACTACCTCGCCGAAAACACTATCAGC

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CGCGATAAACCGTGGGAAAAGCTCGTTATCAGCCGCCGCACTTGGTACTATCGCGGGAAA
CCGATGCTGTCTGAAACGCAACAGGAGAAAAATAATGAGCCGTTACCTGATTACCTTTGA
TATGGATACCAACTGCCTGAAAGACAATTACCACGGAAATAACTATACCAATGCCTACTC
5 CGATATTAAACCATCTTGGCTAGACATGGATTGAGAACATTCAGGGCAGTGTTTATCT
AGGCCGTGAAGGCATCAGTGAAGCACACGGAACAATAGCCATTCAGGAACAGCCGCTCG
GTTTGATTGGTTTTACTCCTGTATTTCAAACATTAAGTTTTACC GCCTTGAAAGTGATTT
GAACGCACAATTTATCGCTGATGGTGTGTATCAAGCCAAACAGGCTTTCCTTCAACGTGT
TGAACAACCTTCGTATATCCCTAACAGAAGCTGGATTGTCTGATGAGCAAATCAATCAGGT
10 TCTGGAAAAACAGAAATTTGAATTGGAAAGTCCTAACCTGAAATTAATTAACCTCCTTT
ACTCACCACATCCGCCGAGCTCTGTCAAGTTTTTGGCGCGCTGCGGCGATTTCTGTGCG
TTTTAGAGCTTCGGGTAsGGTGTGAAACAACCTCACTCGAAATTTACTTAAGTCTAATCTA
AACTATCCAAGCAGTAATTAGTACAwAAAAGGCAAACCTATTTTAGGAGTTAAAATTGC
AGCTGCGATAAACCGTGGGAGAGTCTCGGCATTTCCGCGCCACTTTGTACAAACGTGGC
AA

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 562>:

gnm_562

CATATAGCCGATGGTATAGATATGCACCATCAACGACACGCCCGTTACCACGACCATCAT
CATCGCCGTCATCGTATCGACCAAGAAGCCGACGGAGAAATCCAAGCCGCCCATTTGTCAG
20 CAGGTATAGACATTCTCGTCAAACGTGGCGCGGCTGCCGTCAATAAAGCCCCACAGCAC
ATAAGCCGACAGCACGGCGGACACCGCCACGCCGAGTATCGTAACCGTATGCGCACCGGC
ACGTCCGATTTTGTGGCGAACAAACCCGCAATCAGCGAGCCTGCCAACGGAACAAGGGC
AATTATCAAATATAAAGTCATATCGTTCATTTGATTGAATCCGATTGATTTAAAAATCTA
TGTTTTGTTTCGTACAAAATTACTTCGGAAAAACAAATCCAACACGCTCCAATCGTTTGCG
25 TGCCACAGCTAATTGCTCTTCAGTAAATAAATCACACCACGGCTTTTGTAAACACAGATA
TTCCATACTGATTTCAAGGCGTGGACTCCGCCACCACTCAAATCAGCTTGCTCGGCGG
CGGTTAGTTCGGAGATGACCACTTTGTCCCCCTCTTTCAACCCGCTTTTACTTCGGTAT
TCATACTGTCTCTCA

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 563>:

gnm_563

CTTCAACCATGCCAAAACGGGCAGGACGGCGGTTGTGCGACTTGCTCATCAACACGCCCGC
CATCCAAGACTTCATCCTGAAGGGCGACCTGATGAACATCAGTAAATCATGGAAACCGC
35 CAAAACCGACGGAATGCAGACGATGGATCAAACCTTTTCGAACTGTACCGTCACGGCAT
CATCAGTTACGAAGAAGCCCTGCGCCAGTCCGTTTCGCCAACAACTGCGATTGCACAT
CCAACGACAAAGAAGGCAAACGCCGAACCTCTTTACGACAGGGTCAACGGTCTCAA
CCTCATTTCTGATCCGCAAAACCAATGCCGCTGAAAACCGCATCCCCGTTTTTCAGAC
GGCATGATTTATCCGTCCG

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 564>:

gnm_564

CGAACAGTCGGCATTGCGCCCCGAATTGTGGCAGGCGTTCCGACCGTTGGGGCTGACGCA
TTTGGTCAGTATTTCCGGTTTGACGTTACGATGGTGGCGGTGATGTTTGCCTGGCTGGC
45 GAAGCGGCTGCTTGCTGTTCCCGCGCCTTCTGACGGTCGCGCGTGTGGGTTTTGCG
GGCGGGGTGTGCATGCGCTCTGTTTTACGCGCTGCTTGCCGGTTTTTCCGTGCCAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 565>:

gnm_565

```
5 ATAGCGGATGTGGTCAAGTGTATCGACGAATACAGCAACCGCCCGCACGGCGAGCTGCCC
CGACATCCTGACGGCGGGCATTATACGCCTAAGGCTTATCGGGAAATGAGCCTGGAACAG
GACGGTATCGCGCCGGATATGCTGTGGCGCAAGAGCTGGCGACGATGTTATCCCGCAA
GAGGTGCGAAAGTTACAGCGCGGCTGGCTGGATCATGCTTAACAACCTCTTATTTCTCAAC
CGAGCTGGCGGAGTATCACAAGACGAGGTACGGGTACGCTACGATCTGAGCGATGCGTC
10 GGCGGCAATGTGTTTGATATGGACGGCAAGTTATTACTAAGGCGCAGGCCAACGGCAA
TACCCGCGAGGCTTTCCCGACGGCTCGTATCGACCGG
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 566>:

gnm_566

```
15 CCTGGGTTTCATCGTCTTCTTCCCAATCTGACCCCAAACATTCGCCTTTTGGTTTGACGTG
ATGACAGGTAAACATACCTTTATTTTCGGTCTTCACGGGCTTGGTTCGGGCTGTATTCGCC
GTTGAAAAAGTCTTTTTCGATGTCAACGCGTGTGATTTTTGGGCGGATTGCATTAGTCAG
GAATGAGAAAAGTCGTGATTCCCAGCCTTCTTTTTCGACGCCGCAACCGGTGCCGGTCAG
TTCGAAAAGAATGGCATTGTTGGCCGCCAAAATGGACGCGACCGTATAGGGCGTCTTC
20 CGAACCCTCAACCAACAGAGCTCATACATACGACCGCCGAACTTTGGATTCTTTGTA
GATACCGGAACCGACAACCTTCTTCGG
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 567>:

gnm_567

```
25 CCGGCATCCTGCCCCAAGCGATGCTCAACTATCTGGCACGCTTGGGCTGGGCGCACGGAG
ACGATGAGTTCTTCACAATGGAACAGTTCATCGAATGGTTTGATTTGAAAGACGTTTCCC
CGTCTCCAAGCCGATGGAAGTTGAAAAAAGTCTACTGGATCAACGGAGAACACATCACAA
TCACACACAACGGCAAAGTTCGCCGAAGTTCGTCAAACCCCGCCTTGCGTTGCGCGATATTC
ATGAAACCGAAGAAGCTGCTTTGGAAGATGTGTTGGAAGTGGTCAAAGACCGCACCCAAG
30 ACTTGGTCACGCTTGCCG
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 568>:

GNMGS92TR gnm_568

```
35 CGCCCCAAGAGTGCGGACATCGGTACGAAATGCGCGTCTTCAAACCGAGCTGTTCCGGCAA
GTCCGGCGGTATGCCTCCACAATGGCGTTGAATTTGTCTTCGCTGTAATCCAGCAGGTCCA
TTTTGTTGACCGCCACCACAATATGCGGGCAGTTGAGTTGGCGGAGGATGGCGGAATGGT
GTTTGGCCTGCGGCAGAAGCTGCAAGGGCTGCGCGCCGAAATCCAGTTGGGATGCGTCAA
CCAGCAGCACTGCCGCCGAAGCGGTGCTTGCGCCCGTAACCATATTGCGCGTGTATTGTT
CGTGCCCCGGAGTGTGCGGGATGATGAATTTCCGTTTCGCCGTGGAAAAATAGCGGTATG
40 CCACATCGATCGTAATGCCCTGTTCCGCTTCGGCTTCAGTCCGTCGGTCAGGATGGCGA
GACCAATGCCACGTTTCCATGCCGCTTGAAACCGGCGCGCCGTTCCCGT
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 569>:

-793-

GNMGS94TR gnm_569

ATCTGCTTTTTTACCGCGCGCGGTTTGCCGTCTTTATTGGTAAATTTGGGCGGATCGAT
TATGCTGCCCACAAGCCGGTAATCCACTTCGAATTTATGGCATGAATGATGAATCAAAAA
CCGGTTGAAGCCGTTTTTGCTTTGGGCGATGGTTGCATATTCAAAAAATCGCCAAT

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 570>:

GNMGT51TR gnm_570

CAGGATCCTTGGTGGCCTCCTGCACGGGTTCCGGCAGGCTTAAAAGGCGCAGGCTGTTGG
AAATCGCGCTTCGGCTTTTACCAGCGGCTTGGGCGATGGTTTCGTGGGTACAGCCGAAC
10 CGTCGGCAAGGCGTTTCAAGCCTTGTGCTTCTTCGATGGGGTTGAGGTTTTCGCGCTGGA
GGTTTTCGATCAAACCCATTGCCAATGCGGTTTCGTGCTGATGGTTTTGATAACGGCGG
GGATTTCCGTCAGGCCGGCAATCTGTGCGGCGCGCCAACGGCGTTCCGCTGCAATCAGTT
CGTATCGGGACAGTCCGTGTTTCGCGCACGATGACGGGCTGTATCACGCCTTGCGCCTTAA
TCGAATCTGCCAGTTCTGCAAGGCTTCGTCATCGATTGAACACGCGCCTGATAGCGGC
15 CGGGCCGGATATCTTTAACCGCAACCGTGGTCAATCGGTGCGCGCTGCTGTTGTCCGCGC
CGTTGGCGAGCAGCGAATCCAAGCCGCGCCCAATCCGCCTTTTACTTTTGCATACCGC
CCTCCCGTGCTATTACAGATAGGATGTTAAATCGGGTATTTTATCGGATATTGGGTGTTG
CCGACAATTTGTATCCGCGTTTATCGGATTCTGTTTTTCACTATAATAGCCGGTTTGC
CGTTGCAnGCGGTTTTATGGG

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 571>:

GNMGT89TR gnm_571

GCCTGTATGCTCTCTTTGAAAGTTTCGTATACGTATGGGCTAAAAGGGCTGTTCCGAC
ATAAGGAAGTGCCTTGTGCTTAATTTTCGCGCCTAAGCGGGCAAGTTTGCCGACCCCCGC
25 CAATACGCCAGCGCGGGAAACTGATGAAGATACAACCGAACTAATTTACCCGTAATTGA
TGCTCCAGTAGATACATGCCTTACTTTTAAATCTTGAGCTTCTGAAGTTAAATATCTTCC
CGATTTCTCTATCAAATACACCTTCCAAATCTTCTCTTTTGTCTGTAACCTCGAAT
ACCTAAnATAGTGGAAAnGnTCCGACAGCAGAGTCCCAAGAAATTAACCCGAGCATTTA
CTGATGCCAATGCAAATTTAGTACAAAAAACTAAAGCATAGGATAATCTTTAAAAAAT
30 TTCCGCCCTAGGATAATAAACATAACATTTTGCTTCATCTAATTTAATTAATAATGTAGAA
GAATCAGGGAATTGAATTTCTATAAAATCTCTATCATAACGATGAAAGAAATTCCTAAAA
ATATCAAATGAAACGAAGTTTAAAAACCCCTTTCTAATCAATTCCTATAATAAAT
AACGCTTGTTGGTAAATCTCTATAAATATGTGAATCAGTTTGAAATTTAACTAAATGATA
TTCAGAAA

35

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 572>:

GNMGT90TR gnm_572

TGAATATCCAGTCCAACCTTGACGAACCTTTTCCGGCAGCATTACCGGTAACCGCGCGA
AGAAGCCAAAGCCCTGCTAGGCGGCGGCAGCGTTACCGTTTCCGAAAAAGGCCTGACCGC
40 CAAAGTCCACAAGTTGGGCGACAAAGCCGTCATTGCCGTTTCTTCCGAACAGGCAGTCCG
CGATCCCGTCTCGGTGTTCCGCATCGGCGCATGCGACTTCCAACCAAACCGCACCGCCAT
CCTCGATCCTGTGCGCTACTCGCCAAAACCAATCTGCACTTTCAGACGGCAAGACACA
CCGACAGCAGAACCATTTATGCAGAGTCCCAAGAAATCAAACGCCAAATCCCATACCAT
TAATCAGAAATCTTCTATTTTTCGAATCCACTATTTCTTCCAAAGCGGCAAAACCCAT
45 ACCGTCCGCAAAGGCGAAACGGTCAAACAGATTGCCGCGCCATCCGCCCGAAACACCTG

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ACGCTCGAACAGGTTGCCGATGCGCTGCTGAAGGCAAACCCAAATGTTCCGCACACGGC
AGACTGCGTGCGGGCAGCCTGCTTCACATTCCGAATCTGAACAGGATTAAGCGGAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 573>:

5 **GNMGU42TR gnm_573**

CGTTGTTTCGGTTCGGTTTTTCGTCATACCAAATTCCTTATTTCTTCTGCTGAGATTTATG
AATTATTTGTGCAGCCCGCATTCTTTGCTGTTTCTGCCTTCCCACCACCACCGCCCGGAG
CGGATGTCTTCGCCCCGCTTGACGGGGCGGATGCAGGGGTGCGAGCCTATGCTGGGAAAT
CCTTGACGGTACAAATCGCTGTGAGGCACATTGTTGGAGAGGATGTATGCCACACGTCG
10 TGTTCGACTAGTCGAAAATCGGGTGTATTTGCCGATGCCCCGTCCGSCATCGTATTTCG
GCATACAGCAGTTCCGTGCGTGTGGCGGATTGTTTCGGCGGTTGCCCGTAAGCCACGCG
TCCGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 574>:

15 **gnm_574**

TGTCGCGCTGACGCGTGCCGAGGAACAGCTCAACATCtATtCsGCgTaCTCtCCAAkACs
GCaAAAACAACCCCCcGCCTACwTGATTGAAGGCTCGccAgaCaTsCGCGGGAATGACGG
CATTCTGCGGCAATCGGATTATTTCCAAACCAAAGCGCGTGGTTGCGTTTGCCGCGCC
GAAGGATAGTGTATTTGCCGAAACGTTTGTGTTTCGCGGTTGAGCAGGCAGGCATCGTCGG
20 GCGTTTCGGCGCGGTGGTTGGGGTTGTTGGCTTCGCGAGGTTTGCCGTTGAGCAAAACCG
CTTTGCTGTTCAAAAGCCGCGCGCTTCTTTATTGGAGGATGCCAAACCGGTTTTTACCA
AGGCTTCGACGACATTGATGCCGTCTGAACTTCAAATGCAGGCAGGCCGTGAGGGCGA
GCTGCTCGAAGTCGCTTTTCGGTCAGGCTGCTTTGGTCTTCGGCAAACAGGCTTTCGGA
TGCGTTGCGCGCGCGCAAGGGCTTCTTCGCCGTGAATCAGGCGGGTCATTTCTTCGGCGA
25 GGATGCGTTGCGCTTCGGGCTTGCTGCCGCTTGCTTGTCTTTGGCTTCGATGGCATCGA
TTTCTTCGATGGACAGGAAGGTAAGTATTTAGGAATTTATACACATCGGCATCGGCGA
CTTTTCAGCCAGAATTGGTAGAAGTATGATArGGCGAGGTTTTTTTCGCGTTCAGCCATACCG
CGCCGCTTCGGTTTTTGCCGAATTTGGTACCGTCTGATTTGGTTACCPAAGGCAGGGTCA
GACCGAATACTTGTTTTTGGTGCAGGCGGCGGGTCAGGTCGATACCSCGGTGATATTGC
30 CTCATTGGTCGGAGCCGCCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 575>:

gnm_575

TACCGCGCACGGCGTTTTGAAATAGAAACCGATCAAGAGATACGACACCAAGCCCACCGC
35 TTCCCAACCGAAGAAGAGCTGAATGAAGTTGTTGCTCATAATCAGCATCAACATACTGAA
TGTAACAACAAAGAAATATAGCTGAAGAAGCGTTGGTAGCCGACTTTTTCATCGTGATATA
GCCGATGGTATAGATATGCACCATCAACGACACGCCCGTTACCACGACCATCATCATCGC
CGTCATCGTATCGACCAAGAAGCCGACGGAGAAATCCAAGCCGCCCATTTGTGAGCCAGGT
ATAGACATTCTCGTCAAACCTTGGCGCGGCTGCCGTCAATAAAGCCCCACAGCACATAAGC
40 CGACAGCACGGCGGACACGCCACGCCGAGTATCGTAACCGTATGCGCACCGGCACGTCC
GATTTTGTTCGCCGAACAAACCCGCAATCAGCGAGCCTGCCAACGGAAACAAGGGCAATTAT
CAAATATAAAGTCATATCGTTTCAATTTGATTGAATCCGATTGATTTAAAAATCTATGTTTG
TTTCGTACAAAATTACTTCGGAAAAACAAATCCAACACGCTCCAATCGTTTTCGCGTCCAC
AGCTAATTGCTCTTCAGTAAATAAATCACACCACGGCTTTTGTAAACCCAGATATTCCAT
45 ACTGTATTTCACCGTCATTCCGGACATTTCCGCCCTGCTCGGCAAACCTTTGTGCGACC
TGCCAAAACCCAAGCCAAGCACTCGCCCGGATAGA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 576>:

GNMHA81TRB gnm_576

5 AGAATACGCGCGGGTCAGAACACGCCGACCACCGTCCGGGTTTTGTCGTTTTGAAATATT
CCTCTAAATACGGCAGGCGGTTTTATCGACGGACAAACCGGTTTTACGCCAGTTTGC
TCAAGGTGTCGAGCATACCCAAATCGTAAACGGCGATGCGTTCGGGGTTTTGCGGTATTT
GAACGTCGCCGCGCGCGGTTTTGACGGTAACGGACGCGCCTTCGGTTTTGTGCGGCGGAAA
CCGCTGTTCTTTGGCTTGTGGGGCAGAGTCGGAATTTGCGGCGAACACGCGCCCAAAG
10 CGAGGGCGGTGCATACGGCTAAAGCAGTCAAACGTAACATACGTGTCTCCAAATGGGGG
ATATTGGGGCAAAGCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 577>:

GNMHC73TF gnm_577

15 TACTCTAGAAGGATCCCCCGGCTAAAGAACTCGGCTACGCCTCCGACCTCGACCTCGTCT
ATCTCTACGACGACCCCCACCCGACGCGAGGCGACGTGTACAGCCGCTCGCCGCGGCC
TGACCAACTGGCTTTCCGCCGCCACTGGCGCAGGCGAGCCTCTACGAAACCGACCTGCGCC
TGCGCCCTAATGGCGACGCGCGGTTTCCTCGCCACAGCATCGCGCCTTTGAAACATACT
AGCGCGAAAACGCTGGACGTGGGAACACCACTCGCTTACCCGCGCCCGCTTCATCTGCG
GCACGTCCGAGATTGAGGCGGCCTTCGACCGCATCCGACCGAAATCCTCACCGCCGAAC
20 GCGACCAAACCGCCTTGGCAGGCGAAATCATCGAAATGCGCGAAAAACATGTTCCCCACC
CACCCGCCTGCCGACAGCAACGTCAAATACGCGCGCGGTGGCGTGGCCGATGTGCACTTT
ATCGTCCACTATCTGACACTTGCCCATGCCCGACAGTATCCGCAACTCTTGACAACACTAC
GGTACCATCGCCCTCTTAAACATCTCCGCCGACTGCGGTTTGATTGACAAAACCTCGCC
GGCCACAGCCGACCGCCTATCGCTTCTACCGCCG

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 578>:

GNMHF24TR gnm_578

30 AATTCCAGCTCGGTAGCATTACGAATTCGAGCTCGGTACCCAGCACAAACCCCTTACATGT
ACCTTGTGTGGTGTGTCATTGGATCCTAGCAAGAAAGGTATCCATTTGTTCCCAACAAAATC
TTTATCATGCACGATTGAGTAGGATCCGCTGTTATAAGTTTTGCCGCTGCAACCCGTATA
GGTATAGCCGTTTTTCTGTAAAACATCGGCGTAATCATTCTGCACATTTGTGGCTGTACC
ATAGAAACGTGCTTTTCTGATTGGGGCAATGCCATTTGTTTTTGATTGTTTACCCAATC
TTTTAAGGAAACGCTTGCTGTAATCCCCACGACTGTGATTACTGGTATCAACCGACCA
GCCGTTACCCATTTTTTGAACCTCTCGATAAATATCTTGATTGATTTTTCTGAATTGGT
35 TTTGAGTAAATAGCCTTGGCACACTTTATTATTTAATTGGTCGTAACCGACATACATCAG
TTCAGAAACAAGACTTGCACCGAGCCATAAAAAATCTTTATTTTGTATTAGAAATCAGA
TTTATATTTCCCTGTTGGAGGATTCATGACTGCAATAAGCACACTACCGTTGTACTAAT
ACGATGTTGTTTTGCTGCGTTG

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 579>:

GNMHF55TR gnm_579

GTACTATCCGTACTGTCTGCGGTTCCGCCGCTTGTCTGATTTTTGCTGATTCATATAT
CGACATCGCCAAACGAGACTTCGTATCGCCGTTTCGTCTTTG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 580>:

gnm_580

5 AATAGATTAAGATATAACTATTAAATATTTTATAGATAGGATTATCGGAATTAAAGTCTT
TTATACCCAGTCGTCCGATGCGGTTTATAGCGTATTGTTGCTATATGTTTCGTTATGTTAT
ATAACGGTTGCATCAAAATTTACGCCCACAGGCTTTCCCGACGGTTTGAAAGTTTGATT
TCGATAACTTGGAGACTTAAACAATGCCCTACCCAATCAAACATGCGTCTATCAATATCG
GTCTGATACAGGCAAGGGAAGCCCTGATGACCCAATTCAGGCCTATTCTGAATCAGGCGA
ATATTACCGATCAGCAATGGCGGATTATCCGTCTTTTGGCGGAAAACGGCACGCTGGACT
10 TTCAAGATTTGGCGAATCAGGCGTGCATTTTGGCCCCAGCCTGACCGGTATCCTGACCC
GCCTTGAAAAAGCGGGTTTGGTTGTCCGCTGAAACCTTCCAACGACCAACGACGTGTTT
TTCTGAAGCTGACTGCCGAGGGCGAGAAGCTGTATGAGGAAATCGGCGAAGAAGTGGACG
AACGCTACGACGCTATCGAGGAAGTGTGGGCCGCGAGAAAATGCTGCTGCTTAAAGACC
TGTTGGCAGAACTTGCCAAAATCGAGGATGCGTTGAACTCGTAATACGCCGTAAACGCGCG
15 GAAACGTCGACCGACGGCTTTTGAATCAAACTGCTGCACATGGGGGATGCCTTGTTG
GCAGCATTTCTTATATAGGGGACAGTTTAAAGGGGAAAAATGGCGGATTTGCAGAAAAAT
TTCAAATTCGTTCCGTGATGCGATGGCATCTTGCGCGGCAGGCGTTTATGTCATCACGA
CAGACGGTGCGGCAGGCGTTACGGCATTACAATGACGGCGGTGCGGCCGTTACCGACG
AGCCGCCGACCGTGATGCTGTGCATCAACCGGAGTGCGCGAATCATTCCGATCCTGTCGG
20 AAAACGGCAGCCTCTGCATCAATACGCTGGCGGACGAACATCAGGATGTTGCCGAACATT
TTGCCGGGTGACCGGCTGTGCGCCGAAGAGCGGTTTGCTACCACATCTGGCATCGCG
GCAAAACGGGACAACCTGAAATAGAGGCGCGTTGGCGCACCTGCACGGGCATATTGTCTG
GCAACATGAAATCGGCACGCATTTTGTGTTTACGTACAGGCTCGACGAAATCAAAAAT
GCGGGTGCAACGCCCCGCGCTGCTGTATTTCAGACGGCAGTTTAGATTTTACTGAT
25 ATTCGGACAGATATATGAAAGCGATGATACTGGCGGCAGGACGCGGCGAGCGTATGCGCC
CTTTGACCGATACCACTCCGAAGCCGCTGCTCGATGTGCGGGTAAGCCTCTAATCGGTT
GGCACCTATGCCGTCTGAAGCAGGCGGGGTTTACCGAAATCGTCATCAACCACGCTTGGC
TGGGTGCGCAGATAGAAGATGCTTTGGGCGACGGCTCGGCTTATGGCGTGAACATCGCCT
ATTCGCCCCGAACCCGACGGCGGTTTGAAACGGCAGGCGGCATCGCGCAGGCATTGCGCG
30 TGTGGGTGGGCGAGCGGTTTTTGGTGGTCAACGGCGACGTGCTGACCGACATCGATTTTA
CCGCCGCGTTTCAGACGGCATCGTCCCTGCCGGAACATATTTCCGCCCATCTGTGGCTGG
TGGAATATCCGCCGACAAACCCGACGGCGATTTTCCCTGCTGCCCGACAGCAGCGTGC
GGCCGGAAGTAAATGGCGGCAACGATTGACATTACGCGGCGTGGGTATTTACCGTCCTG
AAATGTTTGACGGAATCGAAGCGGGCAGTGTGGCGAAACTCGCGCCCGTATTGCGTGGCG
35 AAATGCGGCAAAACCGCGTGAGCGGTCAGAAGCATACGGGCTTGTGGCTGGATGTCGGCA
CGGTATGCCGTCTGAAAGAGGCTCAAGCCCTTGCAAGGGCTTGAAGTAAAAACCGGTT
TCAGACGGTATGGCGGATTTCGGTTTAAAGTTTCAACGCCAGCACCAACACGCCCGCGTT
ACCAGCCCCAAGCCTATCCATTCTGCGTGTTCGGGCGTTCTGCAAGAAAACACCGCC
ATCAGCGCGACCAAGACCAGGCTGAATTTGTCGATGGGGGCGACTTGCAGGCGTTGCC
40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 581>:

GNMHI03TRB gnm_581

45 CCCACAGGAAAAACGGTCAATGCTTTCAGCGGGATTTTTTGGGGAAATTCGTCATGTCG
CTGTGCGATAAGGTTTTTATTTCTGCTAAATACTGCGCCGCCTCCAACAATCCTTTCTT
CTCCCTCCTCCGGCTGGTGCGCTTTGTGAATATGCTGTCTGAACTCGGGGACTCAGAC
GGCATTTTGTGTTGCCGCCATCAGTCGGCAACTGTTTTTTCATCCTCTCTCGGCGTTCTT
GGGACTCAACAGATAAAGTGGCTGTGCGGGCGTGCCAGCAGCCGCTTCAAACCGATAGGCT
CTCCCGTATCGGCACAGAATCCATAATCCCTTCATCAATATTGCGGATGGTGCCTGTA
TTTTACTGAGAAGTTTTCGTTCCCGATCGCGGGTACGGAGTTCCAATGCGTACTCTTCTT
50 CCTGTGTGGCACGGTCGGCAGGATCGGAGGCTGATTCTGTGTTCTTGGAGATGCCCTGTCG

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TAGCGGAAGCATTTTCGATGAGTTCGTCTGCATTTTACTAGCAATTCGCGGAAAAAG
CTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 582>:

5 **GNMHL46TF gnm_582**

AAAGCTGGCTTGCCCGACACTCAGACGGTCTCCCCGCCGGCATTTCACGCCGCAACCT
ACGGGCGCAAAAGCCGAATCAACGCCAAAATAACGCCAGCGTAACCCGCCCGGCGTA
TTGGC

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 583>:

GNMHN01TF gnm_583

CAAAATACCCTTATAATGAGCTTTATGTAGCCAATCCTAAATCGGGGACGAGTAGTTTG
TGCGAAAACAAAACGGGTAAACAACCGCCGCCTGCCGCCGTATATGCTGGCGCACGGAGT
CGGCGTGACGTGTCCCATACTTACCGCCCAACCCGGGATGGCAATTTTCGGTCGCGCT
15 GGAACATTACCGCCAACGCTACCGCGAACAGGATAnGGCGGAATACAATAACGGCAGGCA
AGACGGGTTTTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 584>:

gnm_584

20 TAAATTTGTTGTGTCCGATCCGGTTATTGTTTGTCTGACTTGTATTTTTCGGTGAGT
CTCGCCCGTAAGGCGGAAGTGGCGGGCAATGCGTGGCGGAATGTGGGTAAAGGCGGCATT
TTGATTTGTCGGAATGCTTGAGAACCCCTCTCTTAAAACACCCTTGGATTCGGATTTC
AGTGCAACACTAGTGTATTAGTGSTTGAACAGATTCAAGAATAAAACACTTGGCGTTTC
GTAGCCAAGTGTTTTCTTGGTCGGTGGTTCAACTCATCTTGAACCCTGCGTATCTCCCG
25 ATCACTGATGTTACGGAATCGGTTTGTGTTGGGGAAGTATTGCCGGATGAGTCCGTGGT
GTTCTCATTCAGCCCTTCTCCCAAGAATGGTAAGGACGACAAAAATAAGTCTCCGCTTT
CAATGCTTTGGTTATTTTGGTGTGTTGGTAGAACTCTTGGCGTTATCCATGGTAATGGT
GTGCACCTGTCTTTATGTGCCTTTAATGCCCTAACAGCTGCCCGGCAGTGTCTTCGGC
TTTGAGGCTATCCAATTTGCAGATGATGGTGTAGCGGGTAACGCGTTTCGACCAAGGTCAA
30 TAATGCGCTTTTCTGTCTTTGCCGACAATGGTGTGGCTTCCCAATCGCCGATACGGGA
TTTCTGGTCGACGATAGCGGGTCGGTTTTCTATGCCGACACGGTTGGGTACTTTGCCTCT
GGTCCATGTGCTGCCGTAGCGTTTGGGTAGGGTTTGTGCATATTCTGAGATGTTGCCA
CAACGTGCTGCCGTTGCTTTTGTCTTGGCGAAGGTAGCGGTAAATGGTGCTGTGGTGGAG
CGTGATCTGGTGGTGTGTCACAGGTAGGCGCATACTTGTTCGGGACTGAGTTTGCGGCG
35 GATAAGGGGGTCGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 585>:

GNMHT04TF gnm_585

40 TATTTCCGGCGTGATGGAAATCCAGTCGTCGCCGATGGCATGAACACGCCTTTTCGCCTTAC
GCGATTTGAGCAGGTCTTCGGTGGCGGCAGAGCCGATCAGGACGCGCCCTTTGCCACGG
GCTGTTTGGTTGCCTTGCTGTACACGGTTACGGTGTCCATAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 586>:

GNMHV42F gnm_586

5 GCCATTTTGTGGCATTGTTTTGCGTATACCGTGCAAGATAGCCATAGGGGATAACCATTT
TGGTGCCCTGAAAATCAAATGTAACCGTATGTTCAAATCCTGTCATTGGCTCGGGATTGT
TGAAACTGGTTTGTTCAATTAAGGGTCACATGAGGGCATAGTTAAAACACTCCCCATTAA
CCAAATTAAGTTGATAAATGGGAATAGCCTATGGGCCCTAATTTCAAGCCTAGGAAT
TAGGTAAAGGATATATTCCTGGGAGATACCAACTCCTTAGGTAAAAATAATTTACCAACC
10 TTTGGCACCTAGGGATAAAATCCCATACCTAACTAAACCGGGGGGAAATATATTTATCCC
AGGTTGGAGGGGAACCTTTTCCCCGGTTCGGCAGGATAGGTACGGGGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 587>:

GNMHY50TR gnm_587

15 CTGCCGAAGCCGTCGCCCTGAACCGCCTGACACACGGCGCGCTGGACGTAACCGTCGGCC
CCTTGGTCAACCTTTGGGGATTGCGCCCCGACAAATCCGTTACCCGTGAACCGTCGCCGG
AAACAGGAATTGGTCAATAGTCACTTGCGCGCCGTTGGCGAAGTCACCGAATTGAGCTTC
CCAAATGGTCACTTTGTACGTGCGGAGCAAGCAAAGCCGTAAGTGAACGCCATCACGGC
TTCTTCGTTCAAATGGAGTCGATAACCAGGAAGTTCGCCCATGCCTTCGCCCATATGGCG
CAGAGGAACATAAGTATCGTCGTCCCAATTTTCGCGGTTTGTATCGTGCAATAC

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 588>:

GNMHY77TR gnm_588

25 CAATGCATTGGGCGGCGGTGTGAATTACCAAACGCTGCAAGGCCGTGATTTGCTGTTGGA
CGACAGGCAATTCGGCGTGATGATGAAAAACGGTTACAGCACGCGTAACCGTGAATGGAC
AAATACTCTCGGTTTCGACATAAACATTCAATAATAAAACAAGATCATAATAAAAAAA
ATAATGAAAATATGAAGGATAATAGGAGGGTTAAGTTATTTAATGGGACTTGTCTCTAT
GAATCATAAGACACCAAATAATCCATAGTACGTTTAGCAnATAAAACTACCGATGCCTA
ACCTCTTTTTCTCAGAACCTATTATCATTAGAATTCTAAGTGGAAAAATAGAATTAAAAA
ATTTTTTTCTTCGCTCTGTCGTTAATGTATCCTTAGTTTTCCCTAAAAAAATATAAACA
30 TATATATACTGCACAAATATTGGTAATAAATAAATAAAAGCGAnAGGTAATTAAATTGAT
AATTGTAAATTATATAATAAACAACATACGAAGAAAAAATATTATAGATGATTGCTATA
CGAATAAAAAAATATCCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 589>:

35 **GNMHY94TR gnm_589**

GCGTGTGGGACGGCAAAGCCTACGACGACAACAGCAGTTCCGCGACCGGCGGCAGGGTTC
AAAACATTTACGGCGCCGGCAGGCTGCTACGTTTTTCAGCTACGGTTTCTTTTGACGCAA
AGGTTTGATTGATTGGAAGAAAGGTCTCCCGATTGCCGCGAGCATCGTTTGTAGCGGCGT
GGCCGGTGCATTATCGGTGAGCTTGGTTTCCAAAGATATTCTGCTGGCGGTCTGCGCGGT
40 TTTGTTGATATTTGTGCGACTGTATTTGTGTTTTTCGCCAAGCTCGACGGCAGTAAGGA
AGGCAAAGCCAGAATGTCTTTTTTCTGTTTCGGGCTGACGGTCGCACCGCTTTTGGGTTT
TTACGACGGTGTGTTCCGACCGGGTGTGCGCTCGTTTTTCTGATTGCCTTTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 590>:

GNMIA39TR gnm_590

5 TACCTGCGCGCGTTTTTCGACGGCGGAAGGCAATGTGCGCGGCGGCGAGGTCATCGGTTTT
GTCGGTTCGACCGGGCGTTCGACCGGGCCGACCTGCATTACGAGGCGCGCATCAACGGG
CAGCCCCGTCATCCTGTTTCGGTTCGATTGCCGACACCGGAATTGACGCGGCGGACAAG
GCGGCGTTTGCCGCGCAGAAACAGAAGGCGGACGCGCTGCTTGCGCGCTTGCGCGGCATA
CCGGTTACCGTGTGCAATCGGATTGAAGTTGAACCGGCGACGAAAACAATGCCGTCTG
10 ACGACGTGTATGGCATAGCTGACACGCTGAGCCTAAGTGATACCGATACCGAGATTTTA
TTTACATCTTTATAGGCGAGATCCACAGATTGGATACCCAAATTTTCAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 591>:

GNMIA50TF gnm_591

15 CCGCAGGTTCTGGCAAAAACCGAAAACTTTCCAAGGCGGGCTCGTTGGGCAAATCGGAA
ATGGAACGGTATCAAAATTGGGCATACCGCCGCCAGCTGGCGGATGCTGCCGATGCCGCC
GCTTAGAAAACCTGCCTGAAGCGGATTCCCGACAGCCTCAAAAACGGGGAATTGAGCGTA
TCGGATGCCGAAAAGCACGAACGCTTGGGACTGAATGCCGACGCGGCCAAATGGGTCAA
CAGCATTAT

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 592>:

GNMIB26TR gnm_592

25 CTCGGTACCTTCGTAATATTATGAGCTATGAATTGACCTCGGTACCCTGTGCACTTTCA
AAGTATACAACCAATAAATTAATAATAAGGCACCAATACAATAAACAACGCCGTAAGC
ATGCTCATAGAACCTTGGTTCGTCAAGTGAACAGCTTTGCAATACCCGAAGGAATACCT
GAAGCAATACCTGCCGTAATGATTAAAGAAATACCGTTCCCGATACCCCTTTCAGTAATT
TGCTCCCCAAGCCACATAAGAAACATGGTTCCTGCTGAAATACGAAAGATGCAACACCT
TGAACTCAAATGAACTTGTACAACAATTCCTTGCTGAAATACGAAAGATGCAACACCT
AGACTTTGAAGAATTGCTAACAACAGTACCATACCTAGTATATTTTCGTAATTACCTTT
CTACCAGCCTTCCCTTCTTTATTTAAAGCCTTCAATGATGGCAAAATTTTCAGAAGCGAGC
30 TGTACAATAATAGAAGCTGAAATATATGGCATAATTCCTATTGCAAATATACTAAAGCGC
TCTAACGACCCACCGGAAAACATATTCAATATTCCAGGATGCCGTTTCCAGCGCTTTCG
TATAATTTAGCTAAAGCAACAGCATCAACTCCAGGTACGGGTATATGGGCACCAATTCTGA
AAAACAATC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 593>:

GNMIE10TR gnm_593

40 AAAAAGTGGTTTCAGACTAAGAATGACGCAATCGGCATTTAGGCCGTCTGAAATCAGAAG
TACCGTTTCCCAATATCGAAAATCCGCCATGCGGCTAAAAATACTTCTTCATGGAGCAG
AAATGACTTTGTTGAGCTTATTTAATCCGTTGCAAACGCGGCATGGAACAAGAGTTG
ATGCCATTAAATCGGTATTGCCTCTCCCGATACCATCCGCTCATGGTCTTATGGCGAAG
TCAAAAGACCTGAATCCATCAACTACCGTACGTTCAAACCTGAGCGTGACAGTTTGATCT
GTGCCAAAATCTTTGGCCCGGTCAAAGACT

-800-

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 594>:

GNMIF19TF gnm_594

```
5  ACGGCTTGTTTCATGGTTCTGCCTTTCAATGATTGTTTTGAAAGCCTGATTTTGACACCAT
   AACTTCATGCGCTCAATTCTTAAACAGAACC GCCCGATTAAACGGGTACGGAAACGCC
   GAGATAACAATAAGAATCCATCATTTCAAACCTTTTTCAGCAGGGACACATAGTAAACG
   GACGCGAGGATGCCGAATACTATCCAGCCTGTTTCAAGACCGCTTGCACGTTGTCCTTC
   GGACTGCATTCCGCCAATAAAAGCCTTAGCGGCTGACCGTCCGACATCTTCCACAGGCTG
10  CCGTTATATTCCGGCCTGACAATCTGTCCGTTTTCTTTGATTCTTGGTGACTACCAAGCT
   GAAATACAGGTTTTTCAGCCTGGTGCTTCTCAAGACATTTATTCCGACTTGGTACAACAT
   GCCGTCTTACTTCACCACTCTCTTAACGATGGGAACACAAAAAGC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 595>:

GNMIF67TR gnm_595

```
15  AACTTGATACAAAACCTACAATATTGTCAATATCGGCAATCCCCCATCAAATCCGCC
   AAATCAAAAATATAAAAAGGGATGTCCTCGATGGGCATATCGCGTATTACTTGTTCAATC
   CATAACTTGAATTCATTTAAATCAATAGACTGAGAGAATAAGCATTTAATTGCAAATCCT
   AAATCATCACTATCCTCTTTTATGATTTTCCACATAATTATCTTCCTTTGCCGTCAAACG
20  CTCCTTTAGTTACCCGCTTATATCAAAAATACCGTCTGAAAGACGAATATCGTTTCAGA
   CGGCATTTTGACTGTTTAAAGCGGAGGAAGTTCTACAAACGGCAAGAAATGCTGAAATTT
   CTGAAACATTTCAAGATGTATCTCTAACGCTTTTACTGCTTTTCTTTTGAATACGCAG
   ATCATACACATCTATCCCCCTTAAAAACGCAATGTCGGTCAAGGTATTTTTTTTCGATT
   TGATAGTCTGCACATTGAAACAGAACCTACAGTATTGTCAATATCGGTAATCCCCCATC
   AAAATCCGCCAAATC
```

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 596>:

GNMIG49TR gnm_596

```
30  GGTCTTCGCCCTGGTTAACCTCATTAAAGAGTCTCnCAAAATGCTCCGGGCCTACCTAGTC
   AATCTAGTCACTCTCCGAGCCTCCGCGCCTGCCAACCGTCGTGCAATCAGCAATACAAAT
   ACTAAGCCCTCCTGGGCTGCTATCATTCTAGCATTCAAACTCGCTGCTTTCAGGGGTACA
   TCCTTGTTAAAGGAGGTTATTAGTGTCAAGTTCAAATGGGTGTCCTCGTCAGCGGGGCC
   CTCCTCCGAAACAACCTGGGCCGTAAACTTAAGGATTCAAGCCCTGGCCTATGGGTCTTTC
   ATCAAAGTCAGGAGTGCCGTCAAATGAGTACCTGGGCTACTCT
```

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 597>:

gnm_597

```
40  CTAATAACCACAATCCCATCCTTCCGTCTATTGGGGGTTCTATTCCAGGGTTATCTTCGA
   TTTCTCAGCGTAACCGCGCTTTAGCCAGACGTGGTCCGAAACGACCAGACCAAGCGGCTC
   CTCGGAAGTCGCTTCTCTCCCTCGCTTACGCGGGCCAAGCGTCCTAAACGGCCAGGGCA
   CGGCCGTGGGCGACCGTGTAACACTCCTACGGCTTAGCTGGGCGTCGTTATCGGCGACC
   AACTCCTAACTACCTGCGTCAGTAAAGTTGCAGGCGGCTTTAGTATCTTCTGCATAGTCG
   CTTTTAACCTAATAAGATATCTCTTCCGTACCCGCCTCATCGTCAcATCCTGGGCCCCGG
   CAATGCTGTCTCTGAACGCACTCTCGTCTATAAAAGTACATCCTTGGTCCTAGTCCGCGG
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5 TAATATGGTCAGCCGTACTTTGGGTAGATGGGGTATCATAGTCTTTCCGGGCGGGCTTCT
 CTTCCAACCTAGAGGGGTATAACGCCTCATCATCTAAGTACCGGAAGTCTACGGCTAC
 GGGCATCTCTCTACAACCGCTGCAGCATCCGGCTTCTGTTCTATAGAGTAAATGGTAG
 GGTCTTAGCGGTACCTTCCCTGGCACCCACAGCTTCTTCCGCGTCAACCGAAGCTTGGG
 CTTTCATTAAGATTATACCTCTCCTGGTGGGCGTCTGCTATTCAAAGACTGTACGGTCAT
 TAAAGACCCCTGGTTCTCTGCTTGGGCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 598>:

GNMIG51TR gnm_598

10 TCCTGTCTATCCGTACCGGCACTTGCTTCTTTAACCTCTCCGAGTCAAACACTCCTGGG
 CTTTCATCCGCAGCGGCTTCGGCAGGGGTTTCGACGGCTGCTGCTTCGGCATCTCCTAG
 GCATCCATCCACACTTGATTTCGTTCTTCAGGGCTCTCCTCCTAGGTACCTGCTTCCGAA
 GCGGGGCTCTCTCTCCCTACAAACCCTGGTAAGCTCTTTAACGTCCCAACCCACCTCC
 GAAGTTGCTTCTTCACTCCGCTAGGGCTTAGAGGCTTCTTCAACCTCGGCCTCAGCTTTA
 15 AAGTCTCGGAAGTTCTTTCAAATCTCTCTTCTTCGTAACCTACCAGGTTACAGTCCGTCG
 GGGCAAACCTCTCGGGGTACCCAAAAGCTCGGTAAATTTAAACTTGCTTTCTTCCCTAAGA
 TCCTAGTCTTCTGGGCTTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 599>:

GNMIG53TR gnm_599

20 AAGCACGGGGCTTGCCGGTTAAACGGTGTAAAGTTAGGAAGAGCCGGGGCGTCGGTCTT
 AAAAGCGCGCTGCGCAGGCAGATCAAAATCAACGGGTACTCAACTGAAAAGCCTGAAAGG
 TCTCTATAGTGAAGATAGTAGACTGATCAGAATAAGTTCGAGAAAAAACTGCGTACCGGG
 TATGGCGGTATCCAGAAGACCAAGAAACGACTCCGGGCACGAGGTCCGATGCGAATTTCG
 25 AGAAATTGGATTAGGGTCTGGTAAACATTCAAGATCCTCATGGGATTCTTACTATTCTC
 ATTCTCGGGCTTGGGCTCGGCGTTCTTAAAGAATGGGTAGTGCTGGTGATGGTCTTAGT
 AATAGGGTGAAAGCGCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 600>:

30 gnm_600

TCATTGCTACCTAGCTAACTGGCCTATGCCTTCGTGCGGGATAATCGTCGCATGCCcAAA
 ATTTGCCTCGGATTTAATGGAAGTCTTGGCTACTATAGTTTTTGGGTCTTACTGCCTCGA
 AGACTCAACACCTTTCTATTCACTTTTGGTTTAAACGGCTCTACTTGCAAGCCTCAAG
 CCTCTTGCACTCCGAGGGGTGTTGGATCTAGTGCCTCCGAGGGTATATTCTAGAGCCG
 35 CTATGTGTACGATAAGTGCTGTGCAGTTCTAGACGGAACCTACTTTTCATATTTCTTAA
 TATTTCTGCATCTCTTTGCATCCCTGGCGTGCTGTTTCCTAGTTCTGGATACATAACTGC
 GCATTCGTGTTCCCACTGCTAGCGGTACACCGGGTATTCGTAGTATTCAAATCTCTCA
 CATCAAACCCTTGTGCGAGATCTTGAGGGGGAGACCGGAAGCGTAGCAGAAGAAGCCGGG
 TGGACATCGTACCGCTATGGGGTCCCCAAAGCGCTCTCCAATTTTGGGGCGGGAGGGG
 40 GTGAAAGATAGGTAAaGAGCGAGTTCTGTAGCACATAAGAATTTGcAGAAAGCTgGTAAG
 AAGAGGCAAAAACCAACACGAGCAGAGGTAATAGGGTTCGCGTCTTTGGAGGTTTGGGG
 GGCTCCTAGGGGCTTGGTTGCGGGGGCTGTATTTACAAATCTGCCGCAAACGAAAACAGC
 TGCAACAGTACGGCCCGCTATCACGCCGGATAGTCAATGCCAGTGTAATACTCCGAACA
 GTTGGCACACGGGGTCTTTTCAACAATCGGGGTTAAGCAGCACTATGGGGAAACGGTGCT
 45 GAGCGCCTCTCCGAGGAGTTTCGAGGCATCTTCCCTAACACTAATGTCCGTCTTCTAGAT
 ATGAGGTGTACAAGCATGGCCGGCACGATGTATTACGTATACAAAACCTAGTGGATCCAGC

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CTAGCAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 601>:

GNMIG55TR gnm_601

5 TCGTTACTAACTTGGTCGTCGCTTACTCCTCTACGGGGGTTACTCAA~~A~~AAGTTAAAGCTA
CTCTCTATAGCTTCTGCGGCGTCCCTACTACCCGGGTCCAGATCGTTCTTAAAGTCTTCT
CGATTACGTACAGGGTCTTCCCTACAGCCCTCCGAGGTTTGCTTCTTTAGGGCGAATTCCG
GTGCTTTTCATATTAGCATCAATAACCTCTACGGCGCCTGCAAAGGC~~CC~~CAGGGTCCGCC
CAAATCTCTTTTCGGTCTTTCGTCTCTAGTTCTCATAACCGCAGCTTTCAAGTCAACTCCG
10 GCAGCTATAGGGTTACAGCTAAATTCCTGCGGGGCTTGCTCTAAGCACTCTCTGCGTCC
AATACTTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 602>:

GNMIG56TR gnm_602

15 GGTGCGTTCCATGGTAA~~AA~~CTTCATAGAATCTAGAGGGGTAAATGC~~A~~AGGGGGTTACTC
GGGTGGGAAGATCTGGCCGCGTCCCCCTAGGGGTTTGGGGGGCGTCCGGGTAGCTCCT
CCAACGTCAAGCTCGGTCTTTGCGAACTGCTCCTCCTGCGAGATTCTCTAATTCCTA
CCCACCGCTGGCCAAACCGAGCAGGGTGCTGGGCCCTGGTCTCGTCTCGGGCGCTTAGTT
AGGTGGGACCGTTGTACAATTGGCCCAATATCTCCACACACTTACA~~A~~ACTGCAGCACGA
20 ACCTAGACGCGGTAGCCCGGTTTGAATCGAACGGAGGGGGCTGTCTTAGGGGCGCTTCT
GGTGCTCCTAACTGTGGTGATCCAGGGGCTGGCCGACCGCCGCTAAGCCTCTGCACCG
TAACAGCTGCTGTGGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 603>:

GNMIG57TR gnm_603

GCGGCGGCTTCGATAATATTACTCAATTCTTGGTCAGAAGCCGGGGCTTCGAGACCGCG
GCGGCTTCGCTACGGCTACGGCCTGCTTCTTGGGGGCGAGTACCTTCTTCGCTTGCAAA
GCGTCGGATCCAACCACGACCTAAGAGTCCAGCGATTGGGTGCGAGTCTCCGAAACGTCT
TCAATCCAAACCATCTCCCGTTCGGTAGCCTTGGATTCTAGTTACTACGTTTTACTTCA
30 ATGGCTGCGTTATCTTCATGCTATTCAGCGTTGCACTTCGTCTGTA~~CT~~ATCGCCGATCTA
CCGGCGTCGGCTGTAGTTATCCCGAGGGTGCTACTACTACACTTCTTCGCTTCCGGATCA
GCCCCTCCAAAACAGCGGTTCCCTAAGGGCAAGTCCCGGGCGATCCCGCAATCCATCT
GGCTGGTAGACCCGCTTCATACCTATTATAGCCTACGAAGGTTCTA

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 604>:

GNMIG58TR gnm_604

GTCCGATTTCCCTGGGGGGCCGGGGGCTATTGCTCCAGGTCAGGATCGTACCCGAAAGTC
GCTTGGCGCTTAATTAGGGCTCGGCCGAACGGGGGGGTGGTCTAGTAAAGATGGTCA
GAAAGGTTCTATTACGACAGGGGCTCGGGGGGTGTCCCGTCCGGATCTTCCTCACGGGTC
40 TTAGAAATGCTTTGGTCTTAGTCATCGCGAGTATGGGTATATTTAACGGCTCCCTCAATA
GAGTTAGTATTAGGGGCTGGGTCCGTACCTCTAATAAATTCGCAGTCATCAATATCTACC
GTACGGCCGCTTTCAGCCTCTCCGCAAGTACTCTCCTCCTGATCCAACACGTTATCTTCA
TCCATACATTGAAAAGTATGGTCGTCTGCTTCATTGCGGTCTCCAGGGGCCTAATCCTGG

TGGTCAGCGACGGTCCTAGTCGTTACTTTCCGGCGCTCTTCTAAAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 605>:

GNMIG59TR gnm_605

5 GTTAGTTCGGGCTTCAGGGTCCCAAGGGTTAAAAGTGC GGCTTCGGCTCTTACGGGTAAT
GCTAAAGCTCTGCTCATTCGAGTCCGGACTTCCTGCGGGGTCTAAGCTTCGGCAGCTGC
TTCAGAAGGGTCTCTCCCAAGGGGGGAGGCACGGGCTCGAGGCGGTAAATGCTCTTAAT
ACCCGCTCCTCTATCCTGGTCACCGTCCGAGGCTTCTTCGCGTGGTGGTTATCATTTCGT
10 GTGAGAGCCCAATCAATACATTCTTCGCGTGGTAAGCGGTACAATATCGTTCTCAGAT
ACTTTGGTCATTAAGATGGGGATTTCGTTTCGTCCTCCGACGGGTAATATGGCTACCATGGCG
CTCATTTCGATTCGGTGCAGATACCGTCCTCTAAGTCCGGTGGTGATTCTTCTAGTCCGG
GCTCTTAATACCAAAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 606>:

15 **GNMIG61TR gnm_606**

CGGTGGCTAATAGACCACCGACGCCTCCTCCACCGACGTGAAAACGGTCACCCTCATGGT
GGTGGTTCGTTAATCTCGGCTCGTTTCATGCTCTTCTTCCTCCTAACC GGCGACTTCTTGGT
GGTCATCAGCAGGGGTCTTAGACTAGGTTCCCCCGCGTCGACACTTACAACGTAGTCTT
20 CACCAACACCTCGGCGGTCTTGGGCCGAGCTTCCCGGTGGCTTCCGGGGCTCCAGGG
GGGCTTGAGTAGCTTCGGCAGCAACGCCATGGCTTAATCGGCCCCAGCTTCTACAGCAA
CATCTCTAACC CGGAGTGAGCTTGGCCTCCGCCCAAGTAGCCTATCATACCTGGCCCC
AAGGGGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 607>:

25 **GNMIG62TR gnm_607**

CGAAGGCTTGGGCCGATCAACATAAAACATCGAGGAAGACAATTGAGCCTGCTGATCCTC
GGCATAACGGTCAGGAGCTCTTGGAGCGTTCAGCATACTACAGGTTTTCAACGTAAACAAG
GCAGCCAAACTTAAAGCGAGACCTGCCTATCGTTCGGGGCCAAGGCCTAGAAACAACAAT
30 GCAAGAAAGGAACGGTGGGCCAGGCCAAGAAGGGGCGGGGAAAGACGGCTATAGGGCAGG
CCAATCTCCACAGGCGCGCGTAAGAAACCGCAGCAGGGTACAAAGCCCTGCAGGGGG
TTTGGAGGTCTAAGGTAAAGATAAACAACAAGCCAGCTTAAAACTGCCAACACAGGG
GAGTCGGCAAACGTCAGCTTAAGTTTCATAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 608>:

35 **GNMIG63TR gnm_608**

GTTTTTCGCTCTTGGCTCTTCGAACATTACGCTAACTTG TAGTTTATTCTCTCTGAGGAC
CAAAAAAGCTCAGCGTCAACTTTGCGGTCCATGGTTTGGTTGTATTGTAGGGATTAAT
TCTTCAAAGTTATTCTTAAAAGGTAATTTCTCTCAAAGTTACTGGGTTATCTGCGGCGT
TAGTAAAATTCCTCCGGCGTTTCAACATGCTCTTGAGGCGTTCTAAGTCTCTATTATAA
40 GATTAAGTGCCCTAAACACTACAGCAGCCAGCGCCAGCAAAGTCGTCAAAAACCTAAAAG
TCTTAAAGTCTCTCCTCTAACTTCCGGGGCGAGCCCTCTCCTCGCCTCTCCTTTGAAATT
TAAACATCGCCACATCCGGGTCTAAGTAGTAACTTCGTAACCCTGGCCCCGAGCCAAT
TGCTCCTATCGGTCCGAGCTGTCAACAACGAGCCTCCAACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 609>:

GNMIG64TR gnm_609

5 TAGGGAAATACGAAAATTCCTTCCGGTGAAAAATCCGGGGCTTGCAGGGGCTTGAAAGCT
TCTTCAGCCTCCTCCTAAGCTCGGTCTTTTGGTCTCTCTTAAGTTCTTGCTTCTCTTG
TTATTAGTATCTCTATCATCCCGGTCCGGTTTCAACTCTCTAATATCATATCTTTGGGCT
TGGTCACGGTGGGGGTATGGTTCTTAATATCGTGGGTCAACTGGTTGCTTAGGCTGCAT
TGGGGGCCAGCTCTATCGGAAGTAGTCGGGCTCCAGATCCTGCTTAAGTCTCTAAATCC
10 GCCTCACCCTGGCCGGTACTCGGGCTACGCTTCTTAAATGGCTACTCTCCAAAGAAGCT
TCGTCTTCCGCGGCGCGGGCGTTAGATATAAAAGAGCCTTCTGCCTGGTCTTCTTCAGCA
CTTACTTCTCGGCCGGTACTGCGGTTAATATAGACTCCGTCTTCATGGGCCTCTCTACA
AAGTTATCTTTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 610>:

15 **GNMIG65TR gnm_610**

GTCCATCCCAAAAGGTGGTCTTGTTCTTTCTTACTAGTAGAGTCCGTACATTTCGAGGGCA
GCCTGGTTCGACCTAGAATTGAGCTTGGCCTGCTTCCATCAATATCTCTGTCAGCGTCCCA
GCAGCTCTTTGGGTACTTTCAAAAACAGCTTCAGAGGCCTCCTCCGCCGCGCTCCTAGTA
GATCTATAGACCGCGGCTCTGCAACGGCTCTCATCGCTTCCGTACTAATAAGGTCTTTA
20 TAGTCTTCAGCGTGGGCCGCTGCTTCTGCCAACACTTCTACCTAATCTTTAGTTCGTTCC
TCCGAAGCTGGGTGCTTTTCACTAAATTCCTAGTTCTTACTCTTGCTGTTCTTCTAGTCA
TCTATACCGATCATATCTCTTTAGATGGTGCACGTGCTGGCTCTCGTTAAGCGGGTCTC
CTCTCGAAGGGTAAGT

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 611>:

GNMIG66TR gnm_611

AAGTTAAAGTGGAATAATTGGCCGGTGCTTAAAAGAGTTAATACGGGAAGTTCTAATC
TATCCATATTCGTTCTTGTAGTAAATACTCCACTGTTCCAAGCCAACTTACATCGGTTG
TACCGGTTCTTATATTTTGGGTATCTACAGAGCTTAAGCTTGTGGTAGCCCAACCACTCC
30 CTAAAATTAGTGGTTCCTACTCATGGGGAAGCCGTCCGAAAATTGGCGTTCTTCTCGCCT
GCATTACTAAAACATTATGGCGCCTCCTCCGGTGGTTAATATGGGTAATAAATGCGGCC
TCCTGGCCATAGGTAGATGGGTTCTACCAGCAAGTACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 612>:

35 **GNMIG67TR gnm_612**

TTCATACGCAGATTTCGCGGTCTTAAATGTGCGGGTCTACTCGCCAAAGCGGTCTGCCAG
GCTAATACCTGGGACAACCCAGATACTTGATCGGTAACCTAAGATTCTTTAAGCTACCC
CTAGGCTTGCTGGGCGGAATCTTGCTAGTCATCTAACTCCGGGGCAAATTTACGGCTCTC
CTATCCAGCTCCTAATCGAGTTATTTCCCTTGCTATTAAGTATGATGATAGTAGAGGCA
40 CATAGTCGCGTAGTTGGGCTGGGGAATACGAGTGTAAAAGAAAAATCAGATGGGGGCGGG
TGGGGGAGGGGCAAGCATGCTCGGGGAGCCGGGGAACAAAACCTTCGTGCAAACGTTA
GAGTGCTTCAGGTAGGTCAAGTAAAGCGGGTACATCCTTGTAAGTCGGTTCG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 613>:

gnm_613

5 AATGTAAAAAATTCCAGGTTTCTGCAAAATACCAAGTTCCACGTGTACCCGGCACAAAAA
TTCGGGGGTTTTCAGAACGGGTTTCGATTACATATTGACAGGTTTCTTGCTCTCCCAAGCA
TCAGAGGGTACGGGGCGCGGGGCAGGGGGGCGGGGGCTCCAAGCATCAGAAAGCATC
AGAGAACGAGGGGGAGGGGAAGTTCTTAGAGGAGACGCCAGGAATAAAAATTACGATCCT
CGGCTTGTCTTGACTGTAAACACAATCAGGTGTGAACCGCTGCAACTATTAACGCAAGT
10 CCGGTTGCATGAGGGCTATGCGTGCTCCTGGTCTGCTTGGCGTTGCAGGGGGCGGAAGTT
ATGAGAATCTATTTCCCTTAAATACTAGAAACCTATCCCTACTTTCAGGGCCAGGCATTGA
GGGTTTTCATATTTGTCTTCTACTGTGCGGTCTTAACCTAACAGATCTTGGCCGATTG
GCTTGCTCTCGTCGAACTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 614>:

gnm_614

15 AAAATGGGCAGTGTGGGCTTCGGGATTATCAGCCTAGTCGTGGGGAAGGTCCTACGATTG
GCCAAATCCTTGCGCGCTGCAGTCGAGGGCAAAACCGCTACTACTAGGGTCCTACCCCG
TACCGTCGGCATCCTCATCATGGTCAGCGTCGCCCTGGGGGTAAGGGCATCTAAGCTCAC
CTCCTTCAGCTCCTTCAAATTCGGAAGTCTGATGGGAAGCTGTAGCGAGAGATGTTAACT
20 GCGCAATCAAAGGGTAAGATTGCGAGGCGAGGTGCAAAGAAACGGATAGGTTATGAGGA
TAGTGAATGATGGCTTCTGGAGGGCAGAGACAGCAAGGGGATGCGGGCTATACAGGGTTA
AAATGGGGATTAGTAAGAGGGCAAGGGAAAAGGGGAAGCAGCAGGGGCAGCAGGCTTAAT
TGCTGGCGCTCGAACGACTAAAGAGTTAAGAGGGGTAGGATTGGGGGCGTAAAGAACGGG
CACGGGAACATGGCTGCGAGAACATACAGAACTCGCCAGCGGGGGCATGGAAGAAGAGG
25 GTGCCCCAGAATGGGCTCGGGGTTGACGGCGTGTTAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 615>:

GNMIG70TR gnm_615

30 GTCCGATTTTCCCCAAAACGACGGCCTCAGGGTCTACCTGGTCTTAACGTGGGCCTCA
CGAGTAGTCTCTTTTGGCGCTTCACTACCTGGTCAGCAGCGTCTCCTCTCCTAGACGGG
TCAGTACCTCCGTTAGACTCCTGGTGATGGTCGTACAGATCTGGCTCATCGTTTCAGCA
CCAGCCTGGCCCTAAGGGTCGTGCGGCTCCTTGCTGCAATAAAGTTAGTCTTATTTAAG
TCCTACCGCGTCGCTTCGTCCTCAGCATTACCAGGGTACATCCTTTTCTTATTAGCGTCA
GCTTCATTATCTTCAATATCTCCTCGGGCCTCCTCCTCATCAACCTCGGCTTTCATTCC
35 GCAGGGGAGTCATGGCCCCAGCCGGGTTGCGTTTCGACCTCACCTCCTAATTCTTGCTC
TCTTCTTCATCCGCAACATGGGCCGGATCTTCTCATCGAGCTCCTCCTAACGATCAGCG
TCGGCTCGGTCTTGGGGCCGCGTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 616>:

GNMIG71TR gnm_616

40 CCTGAAAGATGTAGTAGTCATTTCAGACGCAATTACGATTTCGCACCCAAACCTCAAAACAA
TTTCCCACCCACGCAAATACAATTGCAAAATGCAGCTAGATAAATACGCCCACTCTTT
GACGCCGCGCATGCTCGATTGGGGCGAGAAGCCCGTAATCATGGATAGGTACGACTCACT

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GGAATTCAAGACCCACCTCGACCCAAATTCACGTGGAAGACCCTCAGCACGGCTGCCCCG
CGACATTTCAAATTCACGCAGTGAGTTAGCCTTACCGGCAACCGCTTCGAATACCGATGC
CACCATTCAATTTATCTAGCGGCTAAAAGCTCCCCAGCACTGCGCCAGACCCCGCAAACC
TGAAATAAATGTCCACAGACTGCCGGTGTTCCTAAA

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 617>:

GNMIG73TR gnm_617

GGGCGCTCCAGGTAAAAGCAAATTTCCGGGGGGTCCATAGAGGGGGTGCATTCGAGGAAC
TAGGCTTGAGTTTCTGGGCGCGGAGACGCCAGGAATAAAAAGTACCATAACCTCATCAAC
10 TTCTACATACGATCCTAACCTCACCTAATCTGCGATGCCGGGGCGGAAGTTATGAGAGA
TCCTACCCACCTCCCTGCCGGGCGGGCCTGCCTCCTCAGCGCTCCCGGCGCCTGCTG
CTCTCTTTGCATGCTTAAATGCTTTTAATACTCGGAGCTCCTGGGCGGGAGGATATGCGG
GGGGCTTACGAGGCCGCGGTCCCTCCTAGCAGGTACGCGAGGCCGAGTTTCGTTGTCG
TAAGTGCAGCAGCGGCCTCCGCGGTCTCCTACTTGCGGGCTTCCCTACATC

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 618>:

GNMIG74TF gnm_618

GGCTTGGGCTGATAGAGGGTGTGCAATGCGCCGAGTGCTGCATAACAGGCTGGAATGCTG
TTGACAATGACGCGGAAACCGTAAATATCCATAACCTCGGCAAAGCGCAGCTTTTTCGCC
20 ATCATTTTCTGATGGATGCCGTACAGGTTTTTTCCCTGCCTTTGATTTTGGCCTCTATA
TTCGCGCCTACCAGCCGCTGGCCGAATGCGCGCAAGACTTGGCGACAACGTACTGCCGG
TTCTTCCGGCTCTTGTACATCGCTCTTTTAAAGTCTCGTAACGGATGGGATGCAAGTTA
TGGAA

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 619>:

GNMIG75TR gnm_619

TCCCTGGGCCTATCGTACCTAGCGGAGGCCCTCCGCTGCAGGGGGTGCAGGCAAACAGAAAA
AATCTCTTAATCTTGCAATTTGGGTTTGGGTACATCCTAGAGCTTCGTGCAACTGGGGG
CCACTAAATTCTAAGCATTCGTTTTTAGAGGTTCTCTCCTTTTCGTAGCCTACATAGGCT
30 TCTTGGTTCTTGCAATCAACACCAAACTAATCTTGCTGTGAGTTTCTTCGACCTCCTAG
TAGTTGTGGTTCTTCTAATGGTTAAAATAGTCAATAATGTAAATATGTATCTTCAAAG
TAACTTTGCTCTATATTTCAATGTAGGAGTCTTCGTGAGTATCAAACCTCCTACCCGCTA
ATCGGGTAGTCAAACCTGGTATTTCTTGCTTTCTAAGCACGATCTGTCCTCACAGG

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 620>:

GNMIG76TR gnm_620

AAACTACTTAATTAGCAAAGTAGTCTGTACCCTCAACCTGATATTACTAACTAAAATGCG
TACTATCTACGTCAGGGCTGCAAACTATGATTCTTCTGATTTTGCAGAAACACCGAGAA
AAGTTCTGGGTATTTGACTTTCTCTTTGATCTCCCTGGGGGGCGTACGGGTCATGGGC
40 TCCACGCGAGGCTTTCTTACGTCTCTTAACCTGCGAGGGCAGGGGTTAATGTCTTATA
GACTTATTAAATGTACTCCTCGCGGTTAATACTCGCCTTCGTGGCTTCGTGGGTCCTCCA
GGTCCCTCGATTCTCTCATTAGTAAGCTACTACCTCCCGTCTAGCATGCTTGGGGTC
ATAATTGGAAGGGTTCGACTTCAACCTCT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 621>:

GNMIG78TR gnm_621

5 GTCCGATTCCAAAGGGATTCTATCTTGCTTAGAATCCGCTCCGTCGCGATATTCATCAAC
TTAGCTTTCTATACCACTGCTGTGAGATACTTGAGTTTCGTCTACTCCTCTATGCTTGG
AGGGTTATCCTCACTCGTTACATTTTCGCTTCCAAGAGCAAAGTATCCCTAAGTTGCTTA
CTAGGCAGGGGGTTCACCTCCTACCTAAAAGGATCAGCAAACGGGTAAGTGGAGTACC
CGAAAAATCAAAGTTCTTTTCGTACCCGGGGAATTCTTCTAATCATTTTAATCCTACCT
GCATTCTCGATTAAAGGTCTCTGGGGGTCTGTAAGTTGGGCCAAGATCCTATCTGGGAGA
10 TCCTCCGAGGTCATGAGCGTTCTAATCCATCCTCACTCTACCTCAAAGCCTACGGGACAA
TTTCAAATTCAGGATTTGGAGGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 622>:

GNMIG79TR gnm_622

15 TTTCTTGCGTTTGTCGTCGGCTTCTTCTTGCTATTAGTCGTCAACTTTGTAATTGTAATT
GTCCTGATGCCAGATGATGCATTCTTTGGGGTCGTGCTTAATTTAATGATATTCTTATTA
AAACTTCTCGTTCTTACTCTAGTCTTCTATTCGATGTCTCGAAGTCGTCTGTCTGTC
GTTTTGATGGTATTTTCGTGCGTCAAATTAAATGTGCCAGGCGTAGTCTTACGATTATTT
GTGGGGGTAGCATTTCTATTGATAAAGATACGGGTGTTATTGGTGGTAGGATTAGGTAAC
20 TTTGCATTACTTGTGTTTGTCTACCGGGCCATCGAGATCTTCATAGCTTTCGATCTAGTA
GTCATATTAGGAGTCCTCTAGTTGGCTTGCCCTCCTACGTACTGATTGCGCCTTACATG
CCAAAGATTGTATCTGTCAATCTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 623>:

GNMIG80TR gnm_623

GGGTCTTAGTTCGGGGTTATTAACGTGGTCCCAGTCCCTCATTAAAACGGGGCTCCAGCCCT
ACTATCTTTGCTACGATCGTCGGGTAGTCATTATAAAAAGTGGCGTCCGAGCCGTCCCT
ACCTGCGTCAACTCCTCTACAGACTCTACTATTATGGTATACCTCATAGTCTCTCCAGC
TGCAATTAATGTCAACGTTAGAAGTCTATTTCATGGCCGGCGTGGTCGACCATAGGCTTCG
30 GGCATGGCCCTCTCGGTGGTTGTAGTCTCCCGGGCGACTCTGGTCGAAATTATGGCCGCT
CCTAAAGTCGTGCTTACGGTTCTTAAGGTCGTTCTCGTTAAAGTAGTCATTCTGCTTAAT
AAGGTCGTGGGCGTTAGTCATGTCAGTACTCGGGTCTCTATTCTCGTCCAGATGGTTACT
AAGATGGTCTTCGTGCTGGTTCCGGGCATTACAAGTTACATCAGAGG

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 624>:

GNMIG81TR gnm_624

ATCCACCTCCCTCACTTCTGCCCTCAGCCGGGGCCTAAATGTCACTCTCGTCCCTCAGGGT
AGCTCCATCTACTTCGCATGTTCAATTTTCCCATCTGCCTTCTCTAGGCCGTTTCGCG
AGCTTTAAATTACGGGGCCCGTCTTGAATCCATAAAAATTCTTTTAAACCGGCGTTC
40 CCTTCCTCTGAGCCGGGGGATCTTCGTATCTCGGTGGGTGCGAGCCAGGGCCCCAGCG
ATTAAATACCCGGAGACCTGGGTCTATTACGGGGAGCGGTCTTGACAGGCCGGGCTCGTA
GTCTTTCATTGATGCTAATCCAGAAATTGGCCGTACGGGCTTCGTCCGCGACACCAATA
CCTCGGCTAGCACCAGCGGAAGCAACATAGCGGCATTGGCGCTCATCCnCCACATAGTCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 625>:

GNMIG83TR gnm_625

```
5 CCTCCTCTCCTCGGCGGGCGTACTTACTTTATGGGCGTGAGGCTTAGGAACAAAGGCCA
  ACAACACTGGCTTCGTGTGGGCGGGCATTCCACTACGAATCAGAGGAGGATCATTACCT
  CCCCCAATCGAGTCGGCTATACCTCTCGAACCAGGCCAACACCTCCACTGGAGTACCTA
  GGGCCTAAAGCAACAATAAAATCACTGCCACCCGCTCGGTAAATGTCCCTGCAGGGGGAT
  CCGGCTCTTCGATTGCTGCTTCAAATGCAGGCGGGTCGGCTCTTCGATGCTATTCAAAAG
  CTTGGGCAGCGGCCAACACAAGGATATCTAGATGGGCATTACGCTCTGTAAATCTCCCCA
10 TCGGCAGCTCAGGAGTCGGCTTCAATTCGGGTAACTTCCCTAGGCGGATTCAATTGG
  CGAGCATCAATTCGGGGGTCGAGGCGTTTCAACCCTAGGTAGGGCACC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 626>:

GNMIG85TR gnm_626

```
15 CTGGGCAGGTGCAAAAGATCATGCTATCCTCGGCCCACTGCCAGCGGCAATACTTTCAA
  TAGACATACGCTTAACATCATTAGGAACTTCAGCTTCTTAAGATTATTTAACTTGCTGC
  TAATTAGATCCGTACTACGCTCTTTCGTACGTTCTTAATAAGCTTCATTACTCGAGAACG
  TAACTTAAATTTGCAATAGAAATCATCCATACTATAAATCTTTCTCTGGCTTTCTTGG
  GGGCGTCTTCATTATAAGATGCCAAATAAGTCCTAATACCCAGATAGATACCTCCGAAA
20 ATGTAACTTTAAATTACTCACAAAAATCTTAAACAGGCCTCGGCACTCGAGTTAACA
  TACTGGCAAATCCTGCGTCT
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 627>:

GNMIG86TR gnm_627

```
25 AACAGAGAGGGTTACACACATCCTGGCTAAGTATACACCTAGGTCGGTTCGGGATAAGAG
  CTCAGCATCGATGATTGCCGTAAGAGGATGACTTAAAGGATTAAAGCTGAAGAAGCTAT
  GAGAATTACTGACGGACGAAGAGGTAGGATCGGGTCACAGAGTGGGTGTAGGTGGGCTAC
  AAATGAAAGGACTAATTAGAGGGTTAAAGGTGCTGAATCTCCAGCACTCGCTCT
```

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 628>:

GNMIG87TR gnm_628

```
  TCTTCTGGGTCTCCGAGGCCAACCGAAAGGTCAGACCCGCCTGCTTGGGCGTTCTCGAGG
  TTCCAAGCCGCCATATGGCCATCCCAACCCGGATTTCGGGTCTCTCCCCTAATTGGCAGAT
  TCTTGGTCCCTACTTTCCGTACCCCTCAGGGTCGTAAACTTGGGCATATGGCTCCGAAGTA
35 CTGCGGTGGGGGTATGGGGCGGCAGCAGATCTACCTGCGAGCTCGGGGTACTTACTTGG
  GCCTCGGGTCTCTATTACGATCTTATCCGTGGGTAAAGAGTCATTGTCAATTAGGGGCT
  CTCGCCATAAATTCCTTACCAACCTAAGCAGAATGAATCTTAATATTCTCTTCAATTGC
  TTATCTCTCCGTGCACTACTTCGGGGGGAAGCGTGGGGGTACAAGAGGTCGCGGTTACTC
  TCTGGGTCCGTCGAGAATCCAGGAAGTTCTCTCCAGACTTTAGGnGCGTTAGAAGTGTAG
40 TCTATCTCGTCAGAT
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 629>:

gnm_629

GGGTCTTCGTCCGTAATATAGGCTTCCGTCCCGGCCGTCCCTCTCAACTACTAAAGTCTCT
 TCAGGGGCTTTCTGGGCACGGTCCCTACCGGGTTACGCTCGTAAACGTTATCTCCGAGG
 GCAACAACCTTCCTGGTCTTGGTCGCGGTATCGGGTCAGGGGCCCTGGCATCCAAATCA
 5 ACGCTGCTTTGGTCATAGCTATCGTCCTAGACTTCAGCGAGGTCCCTCTCACTCCTAATA
 AAAGCCTGGGGGTGCTCCAGCGCTTCGTGCAAACCGGCAAGGGCTCTTCAACACCGGCA
 AAACAGACAAAAATCTCGGGGCTCAATTCGGCCGTACTCTCAGAGGCCTCCTCCGTACAG
 GTTACTGCGAGGTCTCCGGCGACAACCTCCGTACTCTCG

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 630>:

GNMIG90TR gnm_630

TGGGTTTCAGATCTGGCTCTTCGACTGGATCTTGGTCGGCTGCCTAAACTTCTGCGGCAC
 CTCTATCTTTTACGGGGGAGTTAACTTGGGCACTACCGTGGCCCTAGTCATCCGGGGCCG
 CAGCAGTCTCTTCGGCCGTCTCTTCAGATTCCTACACCTCCAATTTCTCTTGGGGGCGAT
 15 CCAAATCATGGGAATTAACTCCCAGTCATAAGAAAGTGCTTGGCCCGGAAACCAGGGC
 CTGCGTCCAAGACCTCGGCGTTATTGGCAGCGTCATACACGGGGCATTTAGCTTCTCTAC
 TCGTACCAAGGCCCATCGCTTCGGCTTCGTCTTCAAAGTCAGCCACCCTGTGGTGGGGAA
 CACGGTCTCTAGAGTCCGGCTCCGCTGGGTCTGGGGCGGCTACTC

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 631>:

GNMIG91TR gnm_631

TGATCGGATTCTGTACCGCTTGTGAGTACCTCCAAGGCCCTGGCCGTCAATGTGGTAAAA
 AAGATCAGCGTTTCGAGCTCTTGCGGTTATCCATCTCCTCCTACTCGACCGTCTCCTCCTC
 CTTTGGTGGATTAACTTAGGTGTCTTTAATTCCTCCCTACTCGCCTCCCATAAAGTTCTA
 25 GTATTCAATAACCTCAACGTAGGATTCTTAAAGATCTTCATTTTCCTAAGCTTTAATCTA
 ATGGCCAAATTGGCCGGCTTCTCATGGGCCAACTTACTAGTTGCTTCCAGAAAAAACATT
 TGCAGCTTAAATGCAGCTACCTAGGCGTCCATCGAGTCGGTAAAGATGATTCTCAATGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 632>:

GNMIG92TR gnm_632

GCTGGTTGCGGATGGTGGGGATTATGCAAATTAAGCGGTATTAGTTACGCTCATACAATG
 AGTACTAGGAAGCATCCGAATCAGCGGCGCGGAGGCTTGCTGGTGTGGCGCCTCCCGG
 GGGAAATAACACAGAATTACTATTGATTTTGAAAACGCGAGTAGGCTAAATAGAAGCAGG
 GGCCATAGAGGAAGATGGTTCGTTGCAGGGGTGCGGTTGACAAAGGGGTCGAGGGGAACA
 35 TAAAAGGTAGGAGAACTAGTGGTAGTGGGCAACAAGAAAGGCAAAAGTACGGGGGTAAAC
 AAACAGTTGTGGGTAAAGGTACAGATACTGATGGTCAGGGGGGCCAGGGGCATAGTAAAT
 ACTGCAGGTAAAAGGCTGCCAACAGAAATGATGGCGTACGCGGGTAGAACTGGGGACACAA
 TGAAGTAACGTACTC

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 633>:

GNMIG94TR gnm_633

GCTTCTTTGTAAGTACnATGGTTTTTCGGAACCGGTAGCTTCTTCGGCACTAATACTCGCT

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5 GCGTCCGCTCGGGCCCATCAGACGCTACCGGCACGCTCTTCGGCGAATCCGAGGTCCCTT
CCTTCGAGATCCTCCTAGGGCTCAGAGCCTCCCGGGGGGTGAGCCTGCTGGTAGGCCGGG
GCTGCGAATGTCTCTCCTGGGCTTTTCGGGCTCTCGGGGTATTTAACGAGTTCTTCAACC
GAAGTACCGTCCCCTCCCCTAGGGGTCTGCCCCCTCATGGCGGTCTCTTGC GGCTTGCG
GCGGCTTCAGAAAGGCTTACTGGCGGCACGGGGGTAGAGGGAATCCCAAAAAGGTCTCTC
CCGGCTTCTTCCCGGGCACGAGCAACGACGTCCGTTTCATCCGGCTCCGCTCCCGGCAGCG
AGGTCGAAATTCTTCTCGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 634>:

10 **GNMIG95TR gnm_634**

TCAACTCCGGACAAAGCTACACGCTCCAGCTCCTAAGTACCCCCACGAGCGCGGGTAGTC
GAGGGTTGGGGGTTGGGGGCCGGCAAATCCGACAAGTACATGGGAGGTCCCACCCGCGA
ATTTGGGTTAAAGTACCCTAATATAGACCCCTCCGCTGGGAGCGCGTCGCAAATAGTAGGC
GGTTGGAGTCCGGGCGGGAGTACCTGGTCCATCCCCTCCTCTCTCTCTTTTTCAGCGGC
15 TCTTCTCGCTTCCAATCTTCGAGCTTCGTGCAAACCTTGGCTTGGGTACATCCTAGGCTCG
TAGGGTAGTTTGGGGGGCACTACCGTGGTAGAATTCTTCGAGGCCTAATAGGGCGAGAA
TTGCTGGGGGGTACTGTGGCAACCCTCCTGGTCTATCTTCGTTCTGCTCCTACGACAAC
GGCATTCTCGCGTGGGCGTCCCTCTCCTGGTCG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 635>:

GNMIH01TR gnm_635

AACCTCTAGGTACGTCCGACATTAACTCCAGGTCTGCAGGCCGCGCAGTGTGAGGTGTA
GGGCGGCGGTAGGGGCCGAGCGGTGAAGCAAGTGAAGCTACCCCTCCTCCGGGCGTAA
GAGTGGTGCCTGCTAGTAGTAAATTCGTGAGGCCAAAACGCTGCTTTGCTTCTGCTATG
25 GGGGTACATCATTTGGAATTCGGGTGAGGAAAAGACTCTAGGTTATGGGTACATCCTAG
TTGGAGCGGGTTTCATTAAGTTCTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 636>:

GNMIH02TR gnm_636

30 CCTACATCTCACGGCTTCAGGCGGGCCGTCAGCCTCAAACCGGTGGGGGTTAATAACTTC
CGGGGCCGCTTGCTCCTTTGCTGCTGGGTCTTTGGTTGCTTCTAATGTAGGATCTTCTGG
GGCATCCTACCTCCTAGGGAGTGGCTGGGCAACCTCGACAAAACCTGCTGCTATAACGGG
TGCTATTATAGCATCTCTAGCTGTGGAAGCCTCCTAAGTCTAGTCTTAGCATGCGGGG
CCGCGATCCAAGTCGGCTTCGTAGTCGTAAATGTCATCATGGACCTAGCTGCTGCAGCTC
35 TTCATTATAAATTGGGGTCTCTACGGGCCCTTAAAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 637>:

GNMIH03TR gnm_637

40 TTAAAAACTTTCGCACCTAACTGTAAATTCTAACAAAGCTACCTCTCGCTGGGATTAGGG
TTACTGGACCTCCTAGTCCTCCTATACCTGGTATCTTAAGGCGCAATCTGTTTCAACGTC
TTAGTGGCCCTCGCGCTAAAGTTTAAAGTAAATTGCGGGCCAATCCTAAACACGGGCTTT
TCTCTTGACGCGCTTTCGGCACTTGGCTTGGTCATTATTCGCGTAGTCATCCGCTCCTTC
CGAGCTCTGGTATTCGAGGTGGCCTCAACTGCGGCAACATGGTTCTTCTAGGATTGGAG

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AAAAGAAAATAGTTTGTGTAACACTACGTGCAGAAGCGGGCCAGGCTGGCACAGGCAGCACG
AAGCCGCGGAAAGGTAATTGGGAAAGGAAGAATGGAGCCCAAGGGTGGAGAGACACCTA
GGACGGCTTAATAACAGCACTAAAAGAAGCCATACGGA

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 638>:

GNMIH05TR gnm_638

TTTCCGTCGAACGTAGCTTCTTTCTTGCATTGCTCAGCTATTAGAGGCCAAATGCATAC
CTCGAGTCCGGGCCCTAGAGGCACAGGTCCGAGTCATCGCTACTGGGGTCCTGGTAATGG
GATTTCTTGCTTCGGGCTTCGTCTCCGGGGCCGTAATAATCGGCGGGGAAAAACAA
10 TTGCGGGCGGGGTCCGAGCCGAAATCCTGGTCGTCTGCTTCATGGTCGATAATAATTGCT
TGGTGGCCAACAATATCACAGCTCCTCAAGTAAAAGCCAGCGTCTGCTGGGTTCCAAATG
CGGGTCTCTTTGGTCTCTGTAAAGCGGTGGGTAACGAGTTTGGCGTCGTAAATTCCTGCT
TCGTTAACTTCGTTAGGCGCGAGGCTCCGGTCGTCCAG

- 15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 639>:

GNMIH06TR gnm_639

GGCAAAGTAGCCGCTCTATTCGCCTGCTTCACAAATGCGGCTACTTCGGTCAGCTTCGTG
CAATCAGGCGTTCGAGCCGGGGATACTTAGGTTACTATCTTCATTCTCGTGGTCACGTTG
CCTCGCGTCGATACCAAATTACTCGCGTGGTCTTCGTCTGCAGCCTCCTGGTGGTCATA
20 GCATCTCGCCGTCAGCCCTCGGGGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 640>:

GNMIH07TR gnm_640

TCCGTTTCTGCGGCTAGCAAACTTTATCTGATCCCGGGTGAGGTGTGTTGCTGAACCG
25 GGGGCTTCGACCGTCCAGATCAAGAGTTCATTGATAGGGTAAAGGGATAGTGTGGTTAAG
GGTCTAAATGGCCGCTTAATGTGGGTATCTTTGCGGGCTTCAAAGGCAGCCGTACGTCC
CTCCAGGTCTTGGGAGTGCTCCTAGTCAGAAGTATCTTCCGCTTCAAAGGGCTCGCCTCC
ATCGGGGCGTTTCAATCCAAATTGCTCGACCGGGCCCTGCGGGCGACGTCGTCAGCAGG
GGAGTGGGCCAGCTCCTCCGGGCTCTCGCGGCTTCGAATGCGTCGACCTACCTGGGGGC
30 ATCCATACCGACGCTAAGATGGTCCCGCCAGTGTGGTCATCAACTCCACATCAGCTTC
AAGCCCCGGGCGTTTCGCTACTAGCTCGGCGGCTCTTAGCCGCGACGACCTCGGGCTCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 641>:

GNMIH08TR gnm_641

ATCGCACTCCGGGGAGTTAGGATTCTAGTAATTAGGTTAACCAAGGACTACATTCGTACA
35 ATTATAGGAATCCTAGGCACAAGGGGTCCAAGTACCTAAAATCTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 642>:

-812-

GNMIH12TR gnm_642

AGCCAGCCAGGTCGTAGGTTTCTCTACCTCCCAAGTGACCGTGCGTACGCTCCAAATGGA
GTCCAGAAAATCCGGGTGCCACTAGGAGGTCGATGCCAGGTTTATGGGTCGCC

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 643>:

GNMIH13TR gnm_643

10 GCTTCGGGATTCTCTTGAGGGACAACCTCCCTCCATAAAATCTTGCTTCTTCGGCTTCCAT
ATACTTGTCTCAAGATATTCTATGTGCGCTTCTTCTCTAGGCAAGGGGCTTCATCTCC
GTAAATGTCGCTCTTGCTCTCTTCAATGCAGCTACGTTCTTCGATTCTAACCTCGCCCTC
TAAGCCTCCTCAGGTGTCTTGCCAAACAGCACTACCGGAACTTAGGGCGCTTCACTTC
ATTAACTCAACGCCGTCAACTTCGTAATGGTAATGTATTTCCATAAAGTCGCAGGCTAC
CTAATCTTCTTCTTCGTCCTCTCTTAGCCTGCTTCTTAAACAACCTCCGCTTAAATCTC
TTTGCTTCTGCTTTCGCGTTCGATTGGTTTAGGCTACTTGCAGCAAATTCATCGTCATA
AATGGCTTCAACTTTGCAAAATTCGGCAAAGTAACTACTTCTAAAGTTCTCGG

15

- The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 644>:

GNMIH14TR gnm_644

20 CCGGCTACCAAAACCCGGGCAATTGCTAGTTCTGGTCAGCGTGCGCAGCCGCGGGGTTG
GCAGGGGCGGCGGCTAGGAGGCGGCAGGAGTCGTTTGAGCTGCCGTCCCTACGGTAATA
AGGGCCTAGTCTCTTGCTTTTAAGGAAGTCCGGGGAGCTACAATATCTGCTGCTTCGCCG
GCCAAAAAGATAAGTCTCCAGAGCGCCAAAGTCAGTACCTAGTGAGGAGGCTCGCCTGG
TACCTCTAGATCCACACGGCACTAATCTCTGGAACCTCGCCGGGTTTCGGGGCAGCACC
TACCTCCTAAGAGGCGTACTACGAGTCCTAATTGCTGCTGCTGGTTTGGCTGCTGGGAT
GAGGGTTGCTGCCAG

25

- The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 645>:

GNMIH15TR gnm_645

30 CGCGGCTCTTAATGCTTCCATAGTCGGGCTTCACTCGGCGGGGCGGTATGAACATTAA
ACTTGCTTGCGTAGCGATTCTTCTTCTTCAGGGCCAACCTGGGTACATCCTAGGCCGT
CAGTACTTACTTCTCCTCACGGGCATTCAATTCGTCCCTGCTCCAGACTCTCCTAGAGT
ACCAGCTTCTGCTAATAACCGCCTCCTGGGGTGCTCTGCATCATCCCCGGGGGAAACAA
ATGCTTCATAGGCTTAACTATCGGACCAGGACCAACGGGATGCGGCTCCAGGCTATATAT
GCTAGTCCAAATAGTGGGTCTTCGTCCCATTTGCTTTCTCTGTACGGTCCTAATCCTCCT
TCTTAAAGTCTTCGAATTTAAACGTCCTATAAAAGCTCGGGGAAGCTAAAGATCAT

35

- The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 646>:

GNMIH16TR gnm_646

40 GAGGTAGGTAAATTCCTCTAATATAGGGTAGTATCTTGAGGGCACTTGCGTTGAGATT
CAGCTTCTGGTCCCTAAACGTTCAATATCTCGTAAGATTCTTCGAGGCCTGTACCAGGGT
CCTAAATTTCTACGCTCCAAGCCCCGAAATCTTCAAAGTAAACGGGTATCTGCGTT
TGTTATCTGCTTCTTCTTAAACCTTTCTAATGCCAACTCTAATATACTCTCCCTAGTAA
GGACCTGATTCTGCCGAATTCTTCCAGAGCTTCAAACCCGTCATCAGCTTATTCGCTC

-813-

TGC GTAAATTTGGGGGTGCTTCTTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 647>:

GNMIH18TR gnm_647

- 5 AAGATCTTCATCTTTCAATAGTTCTCGGGCTCACTCCTACAGCCTCGGCCATAGGTAAAT
TCAAGTACCTCTCCACGCTCCATGCATTCGTTGTCATGCTTCAATATAACAAATTGATTCTAGTTCTCTTTCTTAGATTTCGATGTCTACCTCCACC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 648>:

10 **GNMIH23TR gnm_648**

- TGATTGCAAAAATTCTGGCTTTAGGGTTGGCAGGCCAAAAAGTCCCTGGGGTAAGCTCT
CCTTCCGAAAGAGAGTCGAAGCTACCGCTTCTTAACTGGGAGTGCTTTCTCGAGTTTAA
GGCTGCGCTTCATGACACGGGCTTTTCAAGATTAGGGCTCCAGGCGTTGCAAATAGCGT
TGATAGTACTTTTAAACAGAACTGCAGCCTTGCCGGGAAAGGCTTACTGTAAAGTCGGCT
15 CTTAAGATTAGTTTCTGTCTACATAAATGTAGGGTATTCGTCACTTATCGATCCGCG
CCGCGTTCTTCAGACTTACGGGCGTGGCTCAGCGGACTCCCCGGGGCGGTTAGGCGCTAG
CAATCCAGCGCGTAGACCTAAAGACTGCGGGATTACAGGCAAAACCACGAGGGATAGTAC
TTCAGCTTCGTTAAAGGGGTAGATCGCATCGCTTGGTCTTAACTGGTGGTACTCTCTCT
ACA

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 649>:

GNMIH25TR gnm_649

- TACCAGGAGGGTAATAGTACTGGAACCCAGCATAAGCCCATAGAGGGAGGTCCAAACTT
CGCAGGGTCTTGGGTACATCCTGCCCATCCTAAGCATGCATAATTGAAGATACAGACTA
25 ATCTTCAGAGGCATGCGGAGTCCCTCGGGGGCGGCTTCTGGATCCTAGTAGCACCAGATA
CAAAATCTTAAAACTCTCTGCAGTAGCCTTCAATCGAATAAGCTTCTTTGGTAACAAC
TAGAATTAGACGAAATCCCTGCCTAAAAATACATCCAGCTAGATGTCTTATTGAGATAGT
CCAGATTTTCCATAACAACAACATTCGCACTTAGATGCATACGGGGAAATTACTCT

- 30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 650>:

GNMIH26TR gnm_650

- AAGGAGTGGTGGTACTTGCCGGGATGTGAGGAGTTAAGCACGAAGAAGTCTTCAGGGG
TGTTGGGGGGAAGAGACGAAAAGGTAGCAAAAGAGCCAGGGGTACCAAGAGCGTGGGGAG
TGGTAGAACTTGTCGAGGTACCAGACCTACAGCCTAGGGGGGGAATTTTCGAACGAAC
35 AGTGGGTGTTTAGACGTCGCTGGAAATGATATCTAGTGGGGTCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 651>:

GNMIH27TR gnm_651

TTTCTTCCGGGCTCTCCTCCTGACTAAAGTAGCATTCTCACGCTGGGCCCCAAGCCTCCT

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CCTGGCCAGCCCTCGTCCCGGGGTCGAATTGGCTCTCCGTACGCTCCAAATCACGGTTCC
 ATTTAAATTGAAACACCAAAAGCCAGGATGTAGAAGGCGACGTGGGTGGGTACATTGGAG
 CGTCGTGCAAATCCCAAATTCAGACCATCCCCAAAGAGACGCCAGGAATAAAAGTACCA
 5 TAACCTCCTCACTTCTACATACGATACAGACGATCCAATTCAGGTATGGCCGCTGGTACT
 ATTGGACACAAGTCGGTGTGGGCACTGAACCTCACCTAATCTTCGATGCCGGGGCGGAA
 GTTATGAGAAATGCTTTCTTGCGCACGCCTCCACTACCCAAGTGCGGCTCCAGGAGCTT
 AGAAAATCCGCGTTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 652>:

10 **GNMIH28TR gnm_652**

AAATTCTATAGGTAACTTATACAAAGGCTCCGGAAGTAAGTTCTAGTAGGTGTGGTTCC
 TACAAACGAGTTCATAGTATTCTAATAGTATTCTAATACATAATCTTAAACGAAAGGGC
 CCGGATAAAAATCCTCAGCACCGGGCTCGCTCTGTCCATGAGATTCCGGATCGGATTGCT
 AATATACCTAATGGAGTTCAGAACCTGGGAAATACTGGGCCACTCATATACAGGAATCCT
 15 AAGCGCAAGTGCAATTACAAGCTCCTAGGCCGTGGCCCTAACTGCTAGGAGCCCCCTAA
 AGGTAACCCTAACCAATACTTCGCGTACTTGAAATTAATAGACTAAAGCCTAGGGCAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 653>:

GNMIH29TR gnm_653

20 CCCGCGGCGATCTGGGGTTCAACTCGGTACTTATCAACCTCCTGGCCGTCCTAATTTTCG
 TTCTCTTCAGAGGACTAATTGCTTTCGCTTGCTTCAATCTGGTTAACCTCGCAACCTTC
 GTGACAAAAGGGGCGCCGCTCCTCCTACGGGCCCTCTCCATCGGGGCAATAAAATTCGAT
 TCTACCTAGGCCTGGGCTGCTTTCATAAGCTCTCGGTCTACAGCGATTATTAAGTCCCAT
 CCCCTAACTGCCCTACTGGCTACCTCCAGGATCATCTCTGCCCTCGCAAACCTCAAGCTC
 25 GCCAAGGGAGGATTATAGCCGCTTCTTGATTCTCAGCTTCAGGGCCGAGGGCTTCGC
 TTCTCTCTGCATCAGGCTTCACGGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 654>:

GNMIH32TR gnm_654

30 GTCGTGCGAAATCCCTGAATCCTGCTTTACTCCTACGTTACAGCGTTCAAAGTACTTGCGT
 CCTACCATCGTCGTCTCAACTCCTAACTGCTCTCCCATCCTTGGGCTGCTTTCAGAT
 CTTCCGAGTTCATCCTGTCAGCACCGGGGCTGCTGCAAGTGCCCTCCTCAACGGGGCTGG
 CGCTACTAAGTGCTTCTGCAGCCTGGTCATCTGCGGGGCTACGGCTACTACTCGCAAGGT
 CCCTCCTAGTACGGTAAAAAGTATCCCTCCGAGGGCAGGGGCTCTCTACCTCACATAC
 35 CCTCCGTCTTACGATCTCCTCCGCCGTGCGCTCTAGCCCTGCTTTTCGAACCTCAACGT
 CAACGGGCTTGCTCCTGTCTCCTGTTCTGAGTACCTTCTGGGTAGATACTAGGGTAGA
 CTCGGCTAAAATCGAGGTGGTTCATTACGGGGTTCCGGTCATTTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 655>:

40 **GNMIH35TR gnm_655**

GATTTAGCTCTTCGTTTTCTCTGTACCAAAGGTCACGAGTAATGCCGTCAAGGGTACTCT
 ATCCTCCAGGTCTAGGGCAACGCTAATGGGTTTGAATACAAAACCTTACGAGCTCCGAC
 TAGATCCTTGGGTGCTAACAAACAGGCTTAGCACTTATCTAATGCATTTAACCTCAA

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TCAGATTATAGTTAAGATTGCGTTTCTTATGCTATTTCGTATTCAAAGTCTTAAATACTGG
AATTCTTATAAACTATTAGTACTTCTCAAAGTACATCCTATTCTATTTAACCTACTAA
GATACTCTTCAAAAACTTACTCCTAAACTTACATGAGTAAATACTCGAACTCATAATTT
GAGAACTGTCAGGTCTACTGCAGGTACTATAGTCATTTTTGG

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 656>:

gum_656

10 TAGGGCGAGTTCTCGGGAGTCCAGGGTGCGGGGGGTATGAGAAGACTTCCGGGCTTCGGC
TACCTCCGGGGAGCCCAAACCTCCAGCAGCCGATCCTCGGGCAGAAGTCCCTAGTACTCCC
CTCACTCCGGGTAAAGATCCTCGCAACCTGGGCCAATGGGGCTCTCTCTAACAGCGTCAA
ATCTATTGGCGCCGAGTCAAACCGCTCCACAGCCTCTCTCTGGTCCAAATCCTGGAGCTC
ACACATCACCGAGAGCTTGGCCTCCATGGTCGCTAGTTCAGTCCTAAGAGTCCCTCGCT
AGGCTTACTCCGATCGGGAAAATCCAGCCAGCTGCCGTCTTTTGGGGTCAGCTCCATC
TGGCTTGTGCGTCTCTATCCTGGTCTCATAAGTGCTGCATCTCGCTCCTCCAGCGCCGG
15 GGCAACCAAACtCCTCCTGCCGCTGCAGCCGCTCTCAAATCTTCTGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 657>:

GNMIH38TR gum_657

20 ATTTCTGCGAATATTCGTACTGTTCTTAAATCTTGGAGTCCCTCCATCTGGCTTCAGTGC
TAGTAAAAGATCTATGATTGCTTGGATTCGGGTCTCATAAGTAATCTCGGAGTCAATGC
TAGATCTCCTACCCCGCAAAATCTTGCCTCAACGCGTCTCCAAAGTTGTAAAATTTGG
AAAGTCTCTCTTCAACAAATTGGCCCTCCTCAGGGCCGTCCTCGCCACAGGATTCGTTTT
CTTGAGGGTCATCAGCTTTAATCTTACCTTATTAACAGCTTCTCTCGTGCCTCCCGGGC
AATCGAGGCTCTTGCTGTAATCAATTTATTCTTCTTCTAAGTCTTGATCCCTGCCATAAT
25 CTTGTCCAACCTATCGGGCGTCGGATCATGGAACCCCTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 658>:

GNMIH42TR gum_658

30 TGCTTGGGCAGGGCTGTTCTTATGGCCCTGGGCTTCGTAAAACTCGCGCCCGCGCGTCCG
TCAGGGCGGGCGTTAAGGTCGTAAGTACTTCCGTAAAAGCCCTAAGTACGGCGGGCATCT
GGTTCATGGCTCGGGTAGCAATTGAAGCTACATCCGGGGGTGTCCTACGTTCTAGAGTTA
TTACGGCCGGCTCCTCCGGAATTAGACTGGTTAATATGGTGGTTATGGTCCGCCCTCAGC
GCCGACCCTAGCCGGGCTGAATTGGTGGGTGCACGTAGTAGTGCGCTCAA

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 659>:

gum_659

40 AAAAATGCGGTAATGGTGGTGGTGCCATGGTGGCCGTGCTGGTCATTAATTCGTTGCATC
ACAAGGGGATGGATATTAATAATGCCATTCTGATCAATTGGGCAGTAATAATCGATTACA
TTATGACAAAATGAGAGCGCCGTAGGTATTACTCGGCGGTGGTGTGACGCCCTAGTCCG
GGCTGCAGCGCCCCGGAGGTTGGTTGCATTAAATATACCAACGCCAACGCTTCGTGCAA
CATTTTCAGGGTTAAAAGTTAATGCATTTTGGTCTAAAACTAGGCCCTAAAGATCGTGGT
TGCATCCGTCTTTGCGGGCGCCGATAACGAGGCTGCCCTCCATGCATTCTCTATGATATT
CGT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 660>:

GNM1H46TR gnm_660

5 TGGGTTCCCAAGGCTTCACTGCTGGCTTGAGAGCTACAATCAATGCTGCAGCTAGAGCA
GCAAACACCAAACCAGCTGCGGGTTTCAGCAGGAAGTACCCGCGTCCATCTCCGCTCCTCA
GCTTTAGTCCTCGCAGCAGCTATCAATATCAACAATATCATTCTCTTAGTCTATCCTGTA
AACACTGCATTCAAGGGTTAATTCTTACAACCCCTGGCTCCAATGCCATCTCCTGGG
ATCTCTGCCTCAAACAAGCCGCCACCAGGGCAATCATTATAGGTAGGGCCAAAATCAGAG
GGGCGGGCTTTCTCGATGTCAGGTGGAACCCAGACCACGTCCAGAGGGTTAGCTTCGTGC
10 AAAGATCCGGGGTTTCGGGTACATCCTAGGGTTTCGCGGGTACTTTACTAAGSTCCCTCCAA
GCTCCTAGATCCCAAGTCCCGGCAGGGGCGCTGCTAGCCTCTCCGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 661>:

gnm_661

15 CAGGAAACGCACCTTGCTAATAAAAATCTCAACAACCTCCATCACGGAGATCAAAGTAACAA
CAAAAAATGCATTTAACCTCATCAAGGCTAATTTCTTCGATAAAAAAGCCGCAACGGGG
GAGTCTTAGTAAATCTTCGTGCTAACTTCCTCATAAAAGCCTCCCTTCTTATCCGAATAA
ACCTCGCCGAGTCTCTAGGTGCTTACGCCAACATAGCTTGGATAGCCTCCATCTTCGTT
CCGACATAGTCGATGCAATTTAGGCCCTCGATTGGTTTCGAGCAATAGTCCGTACAGGGG
20 CCAACGGTATGGCCCCGCCCTACTAAAACCGAGTCTCACTCGAGTCATTGAGCTGCAA
ACACTAATCTAACTACCTCACGGCTCTCACGGTGGCAATACATGTGATAATCCTACTCC
GAACAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 662>:

gnm_662

25 GCGTCACCTTAGGCCGAGTTACGGTCCTAACCGACCTGGGAATTGGCCTCACTACCTGTG
GCGTCGCTCCATCCGGGGTCGTCACTTACAATATCCTACCTCGCGGCTGTACATCCCTCT
CCGGCATCCTAACGGCGATTTACGTGGGAATTCCACTCGTGGGCCGGGCTATAGATCTT
ACAGCGTCTTCCTGGTAATCGTCGCTGCTAGGACCATGGGGTTGCTTCTAGTAAGCATGG
30 CCATGGCCTTCGTCTGGTCAGGGTAAACCGGGGCGGCGCTCACTTCGAGGTGGTTCTTC
TGGCTCTTAGTACGTTTCATCGGCCCTATACGATTTAGCCGGCGTCCCGTAAAGCTCTTCG
CGGTCTCTACAACGTCAGCCGGCTGGCCGAAATCTTCCTAGACTGCTGCGTCCCAAGTA
TCCTGGGCCGCGTGCTCTGGGCTTCGGGGGCG

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 663>:

GNM1H50TR gnm_663

40 GCAAAAATTGGTAATAAACTCCTCCAAATAGAGGGGCCCCAGCTTCTGGATTTTTTGCGC
CCCTACTACTTCTATCCGGCCTATCCTCGGGTCCTCTACTACGTTTGCTGGCTTCAACG
CGGGCTTCTTAGTCTCTCCTCCTACCGATCCATAAATTCGTTAGCGCAAAGAGCTTCT
CTTCCATCAGCTTAAAAGTTGCTGCCCTAACCTAATTCGTTGCTTTCAACATAATCCTAA
TCCTCGCCGAAGCCGAGGCATCATAGTATTCGGGGCAGATATCTCTAAAACAACTTCT
CGCCCCCTCAACGCCCTCAACTCCTGCCTATATCAAAGTTCTAAGTTCTGTATCTTAGTTA
CTGGGTTCTTCAATCCTGCCTCGCCAAAGGCCCTCCCAACTGC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 664>:

GNMIH51TR gnm_664

5 GTTCTAAATTATTGTTAATTGTATAAATTGGGAAAAGTTCTGAGAAGTCTTTCTAAGGG
CAGGGAAGTGGTGGATGGCAAAGCCTATAAAAAAGTTAAGTTCGTAAACCTAGCAATCA
TTGGTGCTTGCGTAACTAAAAACAGGGTAAATGCATCCTGCTCGGGGCCTACCTCGGGCA
ACAGATCCGTCCCTTCTGCCATATCTCTGGATCCGGAGTACTAAAGTTCGATCTTCAGGCG
TCACTAAATTCGGGCGGGCGGCTTCTGTAGTCTCACCAAATTCAGCGCCGTCCTAACCA
AAGCGATATTGGTGTTCAGGTAAATCAGGTGGGCACGGGCACTGGCTCGTTGCAACCGAT
10 CCTGGTTGCTTGCTCGCTCCGCCGTCATATAATTGGTGGGATAAGACTTTCTAAAACCTG
CGCCGAGAGCCCCCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 665>:

GNMIH52TR gnm_665

15 AATGTGGCTGAGGCTAGCTGCTAGGCTATACGGGCAGGGCATACTGGCGACAAAGTAAGG
TTCAGGAGGATTAATAAGTCAGGCACAAAAGAAAAGAAAGGGATTGCAACTGACAAGTAC
GGGGCCCTAGTTACCGGAGGCGAGGAGGCAAGAATGGAAAAAGAGACACAAAGGAATTAG
CTAAGGTGTTGATGTAGCCTGCAAATTTAACTTCAGATTCAATGGGTTGTTTCAGAACTG
CCAATAGTGCGGAATCAGCGTTCCTGGCCAACGCCAACCTGCAAATGCTTCTTGTCT
20 CGGACTCCCTCGCCGAGGCTTCAACGCAAAGTTCGGCAAAAATAGTTCAGCTACATTC
GGGCAATCGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 666>:

GNMIH53TR gnm_666

25 GCTTTGTTGTGCAACTTCATTATGCTATTTAGTACTGCTGGCTTTCAGATAGAGGCGCTA
TGGGTCTTACAGATCTCCTTAGACGTTCTATTACAGACAATGCAGCCGGTCCAGCAAAA
GATTAAACGGAACGAGGTGCTTACGACAAATTGTCTGTGTTCAAAACATGTGCTGTTTTA
GTAAAGTTCTCAATCCGCGACTCCTGCTTCAGGCATAAGGGAGTGGCCCTAATTAATCCT
CGGGGCGGTTAGGCACTGGCAAGCCTCCGGCTCGACAAAATGCTGCGGGCTTGAAAAGA
30 AAGCCCCCTCTGCTCGTTAAATGCCACGAAGCAGGGGTAGATCACAGCGATTGCCAACA
AGAGTCTTCTTCGGGGTGGATCCGCTACCTAGATGGGCCTCTAGCTTCCGTTTCTCGGGC
GAACATAATGGCTTCGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 667>:

GNMIH54TR gnm_667

35 GTCCGATTTGCGGAGTCCGGTTCGATGAGTGCGATGCGTGCTCCTGGTCGTCTTGGCGTT
GCAGGGGGCGGAAGTTATGAGATGATTGGTATAGGGTGAAGAAAGGGGAGCACGAATTA
GATGGTGGCCGTCGTTAAAAGTCCGGGTCGTTGGCTGCTCCTACCGGTCTTAGTCCGGG
CCCTCTCAGGGCCAAAGGGTTGGAGATCTACCTATTAATCCTCCTCTCCGCGGGGGTTG
40 CTGCGGGGGCAGAGGGATGAGTGGCCGCTTTGATTTCGGTACTGGCTTCAAGGGGAGAG
TCCCTCTATCCCTCCGAAAAAGCTTCGTACGGTTGGTACCCGGTGCTCGTTCCCTATCTA
AGCCTGGGCCCTGCCCTCGAGCCCTCGGCTTCTTGCTGGGAGGGGCTGCGTCGGGGATAC
TCGCCGTCCTCCAGCCCGAGGAAAGGAGCGTCGTTATACGGGGATCC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 668>:

GNMIH55TR gnm_668

5 AGGGCAAGGGTTTGACGGAGTGACCATACTTTTGAGGTGGGAATGAAGGGTGAAGTGGCA
AAGGAGCACATTAGAGCTGATGATTAGGGAGTAATGGGGGAGGGGCGGGAGGCCACGCG
GGGGATGAGCATTGTAGCGCAATTGCGGAAGCAATAAATTACGGGTAAATAAGTTTCACTT
AAGCATACCAGGGCAATAGATCCGGATAGGGCAGGGGTACCCTATTAAAAGCCGGAGTTT
TGAGCCTGAGTGGCTATCCGAGATCTAACATAAGCTTATAAAAGCCTGGGTTCATATCTT
ACCCTACCAGCTGG

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 669>:

GNMIH56TR gnm_669

TTTTGTGTTTGCGCCCGACACCTCCTAAATTCTACGGGGCTGGCCCTCCTAGGGGTAAATC
15 GCTACCTGCTGGGGTCAGGGGGCTACTGGTCCGGGGACTGGTCTACAAATGTGCTGGGT
GGTCAAACCTGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 670>:

GNMIH58TR gnm_670

20 AAAACTTTGGCGAAATCTTGCGGGGCATTGGTTCGTATCCTAATCCCAGTCATCAGAGCTC
TTATCAAAAACCGGTGCTTCGTAGTGGTTATCGGCAGGGTAAGGCTTCGGTTTCTACTCG
GGCACTTCGCTAGTGTCTCTTTTCTCTTAAATGGTAGAGAAGTCCCAAGTCTTCTTGGA
GACTGCATCTTCTCAGCATGGTCTTCGTTCAAGTCAGGGTTGTCTGGCAACTCGAATTTT
AAATTGGCATTTCGCGTCGTCGTTGCTCGTGTAGTGGCCTCAGGGTGCTCGAGAATGGGC
GTAGCCCGGGATGTTGCTTGCGAGAAAGCCTAGCTGCAAGGGAACTTTGGGGTAACCT

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 671>:

GNMIH59TR gnm_671

CGCGTCGTGCAAACACCTCCGTCGGGCCTCCGTAGGCTGGGTTAGGTTCGGCCAACAGTCT
30 AGGCGCAACTACGGGCGTAAAAAAGAGGTCTAATATCTCTTTTGCTTCTCTGCCCTCCTC
CGTACCCAACTCCAGGGCTTTCACTGCTTTTGCAAAAGTCGCCCTACCCTAGGAACTTC
CCGCACCTCCAAAGGCTTCTTAAGTTCACCCTCACACGCTCCGGGGCTCGCGCCTCCAC
TCCATGCTTCCGTTTCAGATTCCAATAAGTATACACAAAAATCGTGCAAGCCTAAGCAATA
AAGGCAAGGGTTGGTGCTGCTGGCTCCGCGCTCGGGTTCTGGGGGTTTCGGCGCAGCTACT
35 AAAATTACGATACCTGTAAGGGTATACTGGGCCAGAACCTCAAAAAATACCAAGTCTTG
G

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 672>:

GNMIH60TR gnm_672

40 TGCAGAGGCGTCTTCGGGCTTCGCTTGGGCCTACTCCGCGGTCCCTGCTGCCGTCCAACGG
GTGGAAAGCGTCGTAGGGATTCTCGCTCCGTAGCAGCCAATCTCTGCCATCCGAGGGC

TTAAACAAGAGGGAAATTGCTTCTGCATTCAACACCAAACCTCGATTGGTAATTGCAGCA
AATTCAGGTTGCTGCGTTTAAAGCTTCTCGCTTCAGATCTCTCGCCTACAATAGTTTCA
GGCGTACTGATTGCTGTTGCTCTCTAAAGCTCTGGTTGCTTAAATTAAAAGTACTAGAT
CGGAGTTTGAAGTCACTGCTGCATTCCCTCGAGGCGGTCCCTGCCGTCTTGCCTAAGATC
5 CTGCCGTGGCCAGGATCTGCCCTCCAGGCCGATGCATTCTCGGGTGCAGGGTTTGCATTG
GGAGTCAGCTCCATATTTAAGATTGCTTTCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 673>:

GNMIH62TR gnm_673

10 CCTTAAAGTCTTCCGATAAGCTCCTACTGGTCTCTAAAGTCTCTACATCCTTAAGCTTTC
TAACAGGCCTCCTGGGGCTTGCGGTCTACGCACGGTTATGGGCGTGGGCAACTCCTGCG
CTACAGGCGCTCCTGCTGAAAACGAAAGTTTTAGGGGGCTCCGGCGATTCTGCGGGGCC
GAGACTGCTTGGCTGCACTTAAACGCGGATTCGGATTACAGGGGGAGGGATAGTGGGAG
ACCTCACAGTTAAACAGGCCAGATTTAAGGTGGTAACCGATCTAAGGTAGGACTGGCCC
15 AAAGCTTCGTTGCAGGCACAGTTGCTTAGATATCTACCGGGCCAAGCTCCTCGTGCTTC
TCGGCAGCAGCGGCGTCTTCGGGCAAGTTAAGGTCCTTAACTTCTCGACTTCGCGGGCC
TAAACAATTGTGCTTAGGGCCGCGGCTCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 674>:

20 **GNMIH63TR gnm_674**

TATTTAGAACCCGAGAGCGGGCCAAAAAGCAGGTGAAAATGGGACCTCGCTTCATACGAA
ACGTGGGCAGGGTACAACGTACAGAGACTCCGAAGGCGCTTAGGCCCCGAATCTGTGTGGG
ACGCAAGGGGAGAGGAAGGGGCAGAGGTAGACGGTATGAAAAAGTTATTAATTATGACT
TAGAAAGAACGGACGAGGTTGAAAATAAATCCGGGGAAGTTGCTTGGGGGCAGGCTCTGG
25 CTGGCTCGTCGGAACCTTAACCTCTACTTAGGCAGCAAAGGAAGAACAAACAAGTCAGGGTA
ATCAAGAAGGGTATCACGGTGGGGCCGAAGAAAGTAAACAAGGAAAAAGCCTAATATTA
AGAAAAACGATACTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 675>:

30 **GNMIH64TR gnm_675**

AAGATCATAGTTCTTTAGAACAGGTCCGAGTCAAATTTCTTCTAAGGGCCAGCAAAGTAA
ACGGCTTAAGATGTACCAAGTGGGCGGCAAAAGCAAGCACCGCTGCCAACCAACACAACC
CCTGCTCTCTCAGAGTCGAGGCTGTAATATTCATCTTCTTTGCGAGCTTCAAAGCGTCT
GCTGGTCTGGGTACATCCTAGAGTGCTTCTATCCCACTTAGTCAGGTACCTACCCTTAA
35 AGTCAAAAAACACCACGGGCGTCCGGGTAATTATAATAAACAGCTTAGGGGTGGCCAAA
CAGCCACTGGCCCGCAGCTTCTTAGCAGGAGCCAATGGGGCGCTAAAATAGAACTATGG
TATCAACACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 676>:

40 **GNMIH65TR gnm_676**

GCCTCTTAGATTCTTGCTACCGTGCTTCGTTATCCATCTTCTTAAAGAAGAGCCACATT
AAAGTCAGCGCGTTTCAGGTTGGGGATCGCCTCCAGAGTTCGTCTGGGCTGGTACGTGTG
AGAATCCTTGATGCTCAAAACACTGGTAAGCGTGGGATTCTTGTTCTGGTACCTCTG

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5 GTTGGTTCTAGAGATCTTCGAGACGGGGGCGAAGGGTTCGGAGACTTCGCGGTGGGGTGC
TTAGATACGGTCCCAAACAGAGCTGCTTCATCCAGGTCTTGCGCGTCATCAGATTGATT
GTGATTTTCTCGTTGCGAGACTTGCTGGTAAGGCTACCGGGCACCAGTAAAGGTGGC
GAGCTCGTAGGGCCCGGCCAAACGTGTTCCGAGCTACAGGTCCCCCCCCCTAGGCAGG
GGCCTAGTTTTCGCTGCGAATTCTAATCGTAGTTTCATTCTATACACTAGCTGGTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 677>:

GNMIH66TR gnm_677

10 GGGGATATATGTAGCAAGGTAGTAAAGCCAAGTGCAGCCGTGAAGAGTGAGTTTAGTA
AGAAATAAAGAGCAGGAGTGGGGACTGGGAATGCACAGAACTAGTGGGAAAGGGTGG
GTAAGAAAATTGAAAGGGCTGGCCAAGGATGGGTGCGAAAACGGAGGGCGGCCAGGTT
GTGGTATTGACGGGAATAAAGGGGTTAAAAAGTAGGGTTCTACTGGTGGGGCAAGGGGTG
AGGAAACGGAGGCTGGCGATAAGGGTTCCAGTAAACTCTTAGAAGAGAGGTAGGGAGA
15 CTTGTAGTGAACCTGGGAAAGGAGGAAAGAGGCAACAGAAGAGGTTCCGGGTGGGATAG
GGCAGGGCAGGGCAGAGTAATACAGAGAAAAGCATGGGTTAAAGATGCCGAAAAGTGCAA
ATACGGAACCGGTGGCTGGGTGGGACT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 678>:

GNMIH67TR gnm_678

20 AAATCTGAGTCTCAATAAAGTCAATAGGTACATTGGTTGCTTGCTACCTGAGCGTGGGT
GGAAACAATGTCAACTCCCTGGAAGCCGAGATTGAGGGCCAACATCAAGACATCTAG
TAACCTAGTCCAGAGCGTCGTGCAACTTTCAGGGGTGGATGTAAATATTAAGTAGTATCA
TTCAGGCAAATTAAGGATAACCAAGTAGGATCAGCTAAGATACTATATGCCTACCATAAA
TTCATAATGTTTGTGGGTTAAGAAGGGTCCCGGGGGCTCTTGCTTCTGGAAGGGGAGCT
25 TCGAGCAAACGTAGCTTCAGGCCCGGAGGATTCCCTCGCTTGGAGCAGAGCCTCCGGGTAC
CCTCGGTTCCCTCTCTCGGGTCCGTTGCAACTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 679>:

GNMIH72TR gnm_679

30 GAATCGAGGACTACCGAACTTTTGTGGTTTTTCGTTCCCTACTCATTTCAGTCACTTCAGG
CGCTGGTTGCTTCTCATTAGAGAATTTGGCTTCATCCAAGGGTCTGTAAATTCCTAGAC
AGCTGCAGCGACGGTGTCTTCACAGTCATTATGATTATGGGCTTCGACTTCGTTAATGTC
GTTCTAGACTGGATTTCGGTTCCCTCTAAGCTGGGTAATTCGGCTTCCGCTACGCCAAGAC
AATATCTTGGGTAAAGAGTCTTCTTCTGTTCCGGTGCTTTCAAACGTTCCGTCCTATA
35 TTCGTAATTCGGGGGGTAAATCGCTGGCTAGCTCCTGCAAATTCGTCCTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 680>:

GNMIH73TR gnm_680

40 ATTCCGGGCTTCTTCAGGGGATTACGGGTGCTGGTGGGGGGCCGCCAAGATGCGTTCTGC
CGACCTGGTCCCTGCGAGCAAAAATCTTCTGTAACTTTAACCTCCACTACTTCTTCAA
CTAGCCGGGGCAAGAGTGGGAGCTTACAGGGTCTGGCGGGGTACTACCGGGGGCAGGGC
GTCCTAGTGCAAATAACTCCTCTTCATTAAGTTCCGGGGCTTCGGGATCTCAAGTTCA
GACTTCGTGTTGTTGCTAAACAGATTCTGGGCTGTCCGCATCCAGCTAGAAGTTCAGTGC

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TGGGGTCACTCCGGAGACTGCTTATTCATATGAACTTCGACTTGATTCTGAATGGCnCTC
CAAATAGGGGTTGCGGGCTTGGGAAATATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 681>:

5 **GNMIH74TR gnm_681**

CTCTTTCGGATTGCCTTCAGTCCGAGCCCTAAAAATGGTAACCCTCGCGATTATAGTTGC
AATCAGCAAAGGGAGTGTGGGCAACTGCCTCCTCAATCTTGCTTCTATCACGGTCATAGT
AGTAAACCTAGTCAGAAGTTGCAAGGCCAATAATCTGGGTTTCGGCCAAGTTACTACGGC
TCTCATCAAAGTCAAGGCCGCTACCTCCTGGTTAATCACGGGAAGTGTATCAAGGTTGT
10 CTTCCTCAATGTATCTTTTCGAGGTGGTCTGTGCTCAGGAATAATGGTCCGAGGTACCAA
AGTTGTAAGGTAGGCAGGCATGCCCTCTTCTCTTCAAATTCTCTCATCTCATTTCGATCG
AGCCGTCACCTCCATCACTTCAACGGGGTTCAGGGAGTGGTAAAAGTTAACTTAAGAGC
CATTTCAA

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 682>:

GNMIH77TR gnm_682

GTCTCCTCATAGTCAGCTTCGCCGAATCCCTCGACCGGGTTCCAGTCGAGGTTGGTATGG
GCAAAAGTCGCAATCTCTGCCGAAGTATTACTAATCTTCTATTTATAGAAAATCTTATCA
TTATCCGTGCTCCTATAATCTTGGGTGTCCTCCGCGGTCTTAAATTCAGAGATCTAAATA
20 TAAATCCTACAAGTCTTCTTATCATTCTCTTTTCGAGGGCTGAACAAATGGGCAAGTTTCG
ACCTCGACTTGGGTGCTGTTGTGCGGCATTAGCGTCTTCATTAGTAGTGGAATCCTGCTA
GTCTTAGAGGGCATCATATCGTGAATACTCTAAGTAGTACTCTCTTCTATCATAAACTTC
TTACTCATCTAGACTTCAAATTCAACTGCTTTCACGGTCTAGTAAAAGTAGTATAAGAA
TTCTAAGTACTCGCT

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 683>:

GNMIH78TR gnm_683

GTCCGATTTATCATTCTTCCCGAGCAACTTTCTTTGGAGGTTTTCTGTAGTCCAATATCT
AATTGCTCCTAGGGTTCATTAGGTACCAAATGTGGAGCCAGGGGAAATCATGTATCCTCG
30 GGGGTCTTAGTCTCTGCCGAGGAGCAGTCTGCCACAAAACAGCGGTTTTATGTTCAAC
TTTCGTTTTCTCTTTAATACCTACTATAATAATACCTTCGAATTCTGGTCTTCAACTT
CTCTGTCTCTTTCTAATCTTCAGGATTCGAATCATTATATCCGGTAACTTCGTAGGCAG
CAAAAACTCCTCATTGCTCTTCTGCATTTGCTGTAAAGATAAACTAATTCCTCATCAA
AAGAAATTCGGTAGTTGCGGGCCTCATCTAAACAAGATATTGATCGTCTTTAAGTTCAA
35 TGGGGCCATCTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 684>:

GNMIH80TR gnm_684

AATTGTCACAGGTGACAGGTTTATGGGTGCCCCAAGCATCCGGTACGGCTAGGTTCATAA
40 TATTCTAAGTGGCAAATTTTGTCTTCGGAGAAACATAAAGTCTCCTATAAAAACTTCG
TGCAAAGCTCGGGTCTCCGGGTACATCTAGGGCTGTAAATGGGAGTACCTCGAAGCCT
CTCGGGTCTTGGTGTCTTTCATAGGTGTGCTATACTCGGGTACATCCGGGTAGACTTGC
TAATTCTCTTTATAGTCTCCCGCAGCGTTACTACTCGGTCTAGGGGGTATTAGTATGCC

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TGGGACTCCTAATCCTAACGGTCTGCTTGATGGGTATGGTGTGGGACATATTACTAAAC
TAAACTCTAAGGTGGTCTTTAAACTAGGTACAGACTTCCTTAGGGTGGTTCCTCTCCGAA
GGGTCTGGTCTGGCTAACCATCAATTCATCCGGGGCGTCTCTCTAAACCTGTCAGCC
TCCTCCGGATTCTGGTCTCCCTGGTCTCC

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 685>:

GNMIH83TR gnm_685

AATCCGTACTCGTCGTCCTAAACTTCGTTCTCTTATCGTCCCCTGCGGCTATATGGT
CATTCTTGTTTCATAAAAGTAGTGTTCCCTCAGATTGGCTCTTAAAACTTCGTAATGGCCC
10 TCATCTGGGACATCCTCGATTCCCTAGTTATCTGGTCTAAGATCCTCCTCCTCTCGTGCT
GTTTCGTAGGTCTCCGTAAATACCTACCTCCAGGAAACGCGGCAATTAGTATCCTCAAAT
ACCTCAGAGCCTCCAGGGGGTCTTTCAGTATCTTAGGAGCCGACAGATTCTTGCGCTCTA
ATACCGTCAAAGTTGCTCTCCCTTCCGGATCTGTGGCGATACTGTCCCTAAGCGCCTCCC
CTGCCGTGAGCGGCTTACGCCTAAAAGTTTCAAAAAGCTTGCAAATCCTCGAGTCCCTC
15 AATGTCCAGGCTCGGGCACTACTCCTAAGTGCCAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 686>:

GNMIH84TR gnm_686

GTCCGATTTCTCCATGGCTGGGGTTCTGGGCCTGAACGAGCGTGTGCGGGGAAACGCAGG
20 AGGCAGAGGTGCTAGAGGTTCAATCCATAGTAAGCTAGTATTGGCGATGGTTAAATTCCT
ATGCTTAGGAATAAACCGAGTCCTTAGCTTGCTTCTAGCAGCGGCGGTAGTTACGTCAGG
ATTGATCCTAAAAAGATTGGTCTGCCAGACGACCCTATTGGTGGCCGGAGCAAGTGTGGG
TCTGTTAAGAGTTAAATCGGGTTGGCTACTGAGGCTTTTCTGGGCCGATGCTTGGTTTCG
TCGGGTGGTTTCCGGAACTACGAGGGCTCTCGTTACCCTAAGAGCCGGCTTAGACAGGGG
25 CTTGCGTTTCCGCGGCCGTAACCGGCATTGCTATTACGCGCCCGTAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 687>:

GNMIH85TR gnm_687

GTCGTACTGGATCTACTATTTACCCTTGCTAGAAAGTTCCATGCCGAGCAAAAAGCATGAG
30 CAACAAAGTTTTGGCCAGCTCGGCCAACAGCAAAAGCGAGTGCAAGTACGGCATATAGTA
CATAAATACTTGTAACATAAGATCCAATGGTAGCAAAAAGAGCAAAAGCAGGAGCAACAA
AGTTTTGGCCAGCTCGGCCAACAGCAACAGCGAGTTCAAGTCCGGCATATAGTACATAAA
TACTTGTAACATAAGATCCAATGGTAGCAAAAACGGCACATACGCACGGGCTAATTAACA
CTTCTCTACTTCTCACTTTAACTTCTTATGTACTGTAACTTTAACTTCTTCTCTAACT

35

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 688>:

GNMIH86TR gnm_688

TCATCAATTCTACATCGATAAAGACGATCCAATTCAGGTATGGCCGCTGGTACTATTGGA
CACAAGTCGGTGTGGGCACTGAACCTCACTTAATCTTCGATGCCGGGGCGGAAGTTATG
40 AGATGGGTTCCATGGGTTCTAACTTTGCTTGCTTCTGCAAAGAGTGGGTCTCCAGGCG
CTGTTCTTAGAGTCTGGATTCCGCCTCCCTCCGGGCAGCAACATCCTATAAAGCTTCG
GGCAACCATCGGTACATCCTAGGGCGCTGCAGGTCTAGTAACAGGGAGGCGGGCCTGCTT
GTCAGGGCCAGCGTCAGCTCCATCTGGGGCCGTAGATTAATCGGAATCACCGACGTTAGC

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TTTtagggccgctccgctcagccgccgctgcaacgtcttcttataaatgggtccgggggtgtt
agtccttgggcccgaactacggcaagggggtcctgggcacgggcattccctccgggggttc
gctagccc

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 689>:

GNMIH87TR gnm_689

AAAGAATAACCTTCGTGCAAAGTGCgggggTAATGGGGGTACATCCTTGGCTAATGGCCT
AGGGTAGGTCGATCCGGATCTTCTGAAACCTCCTGAATTCGATTGATCACTGTGCAGAAA
AAGCAGGGAGCCAACTAACTGCGACTTGCTAGCAAATTGAAAAGTTAGCTCGAACCGCGC
10 GCTGGTACTCTCTATCTCGGTTAGCAGGGATCCTGTAAGCTTCGTGCAAACTGTATAAG
GGGGTACATCCTAGGGCGGAGCTAACGAAAGAGGTACAGGTGTGCGAGATGCGGTACATC
TCGCTCGCTGCAACATATTGnTGATCTGGCTGCTACAATGGGTCCCGAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 690>:

- 15 **GNMIH88TR gnm_690**

TAGAACCGATTTTGTGGTGTCAAGAAGGGTGATTCATGGGGGCAGCTGGGTAAGACAAG
GTAGCTTCCGACACACAAGAAGACCTGGATTAAACACCTTATTACGGGAAGGAAGCCCC
ACGGAGGATAGGTCTTACACTTCAGGGGAGAGCTGCCAAGAGTTAGATCGCGGAAGTCGA
AACTACTGCTATCACACAAACCACGATGCAGAAAAAGTAGATTGGATGTGTGATCGAGG
20 TGGGAAGGGAAGTGTAGTGGTGGTAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 691>:

GNMIH89TR gnm_691

AAAACGACCAGCTTAGGGCTATAATACTAAATGCGTTATAAAAAATGAGGTGGTAGCAAA
25 AATAAGTTATACCGAGCTATAAAACCCAAGTTCTTGGATTCAATTTGAAAAAAACAAA
GTTGCAGCAGGGGGAAAAGAAAAAAACGGATTTATACAAAAGGGTGTGAGTAAGAGAA
GTAGTCGGGGAGGAGGGAAAGGGGAGAGGGAGGGAGAATTTGGTACTAAATCCGATAC
TAAACTCGAAACCTAGTGGGGTAAAAAGGAAAAACGGAACCAGGCGGAAATAACGCGAA
AGTCCCGACACGGCTCCGTCAGAA

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 692>:

GNMIH90TR gnm_692

TCCGGGGCTGACTAGGGTCCGTGGAGGGCTCTAGCCTGGGGGTCTCCCGCTACGCTGG
TCAGAAACCTGGTCTCTGCCAACAGCTCTGTCTCGAGGGCACTACTCTCTCTATGGG
35 GCTTTACGGGCATAGTCGACGCCGTACTTCTTATACTACTCCACTAACCTCATAGTAA
GTAGACAAAAAGTGGTCTTCACCAGCGAGGGCTGGGGCTGCAATCAACCCCTAACTAGCC
GTACATTGCGCTTCAGCCTGGTCTCTCTGGGGCTTGCGGTTGGCGGCCGCTCTCCCCG
GGGTGAATATGGCCATCGCCGGAATAAGGTGGGGGTAGATCCGATACTATTACTTCCT
TTTCATTCTCTAGAATCCAGTCTTCCTAGTACTGCTCCAGCCCCCAACTCGGTCGTAA
40 GCGAGGTCGGCAGCAGAGGCCATGT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 693>:

GNMIH91TR gnm_693

```
5  GGTTCGCGGCTACCTCCGAGGTCCTCTCCTGCCGCAATAGGTCCGACCCGGTCGGTATC
   TTGGGCCGCGAGCACCGTCGTATTAAAGATCTTCACCGACCTGGCGGTCTCCTCTACTACC
   ACTCCCGTGGCGTTCTCTATAGAGGCTATCCTCGGTCTCTTGCTTAAGAAATTGGCTCTC
   CTCTGGTGGTCGACTTCCGTCGATTCGGCAGGGCTTTCCTCAAAAATAAGTTCCTAAGC
   CGGGGCCGGGTACCTGGCTGGGCACCGGCTCTCCAGTCAACGACGTCGAGGTCAGCCTC
10 GACTTCCCCTCTACCAGAGCCCTCGGGGTAAATTGGGTAGATGCTCCATCACTCTCAGG
   GCCAGCGTCAATCCTACCTGCCGCCACAGATTCCGACCAGACGAGGTCGCTCGCCGTACA
   TTGGTCCCGGTACCAAAAGTGCCGCCTGCGTGGGCGTCTCAA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 694>:

GNMIH92TR gnm_694

```
15 CCTATCTTGGGTAGTCCTAGGGTTGGTGTCTTATCTCTATACCGTCCAAGTTCTATTTCG
   AGTTTTTGTCTAAGATCCTGCGTCCCGGGCTACTCGGTGGCGGTAATTCTATTGTCTT
   CCTCTCCAGAAGCTCCGCCAGAGCCTGTGGCCCAATATTTGGCACCAGGGGGAGTACAGA
   CGGAGTAACCTCGGCATTCTTGTAGCGGTCCTAATTTGAGTAACTGCATTCAAGTGGG
20 CTGGAGGGTCGCTCGGGGTAGTGAGAAAGTTCAATAGTTCGGGTACTAATAAATCTCTTTC
   TTCTCTTGTGCAAAATCCGGGATGGGAAAATCCAAGGGGAGAGGAAAATCTATGTTCTA
   AACTAGGGGTTTGTCTTTCGGGTTTACTTCCTACCTCTACAATCGAAGTAACGGGCAAGG
   CAGGGGCTTCGGGTCTCTCCAACGAACATCCTACTTCCCTTTAACGTTTAAATCTAAAT
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 695>:

GNMIH95TR gnm_695

```
25 CTCAAAGATAGAGGAAAAATGTAAGCCACGCAGCCTAGAGGGACCAGACAGAGATGCAAT
   CAACAAAAGAAAGGGCGGTGGGGTTGTAGCGGGGACCCACGCAGGATAAAGCAAAGTC
   TGCAGCGCAGGAGAGTCCAGCTGCGGTAACCTATTGCAAAAGACAATGGGGGTAAGTGC
   TTGGGCGACGGAATCCACAAAGGGACATAAAGTTTCAGGCTCTATGGGGAATATAGTGGG
30 TGGAGGCTCCAGACAAGATGAACGAAGCAGAAACAGCTGAGGCCGAGGGGAA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 696>:

GNMIJ55TF gnm_696

```
35 CCGTCCAACCTCGCTCAATCAGGCTGGCACACGTGATCGTCTGCGTGCTGCGCTGGAAGCG
   GCCGGTCATGCGCGACAATTACAGGTTGAGCATGGGCCGGTGACGGATAGTCGCGCCCCG
   CGAATGGCCCTGGTAAGAAAAGCCAGCCAGTTGCTGGCCGAGGACAT
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 697>:

gnm_697

```
40 AAATCGAAATAAACCGTGTGTAACGGGAGACCGATGCCGTCAATTCGCGCGCAGGCGGGA
```

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ATCTAGACCATTGGACACCGGCAATATTCAAAGATTATCTGAAAGTCCGAGATTCTrGAT
TCCCACTTTTCGTGGGAATGACGGGATGTAGGTTCGTGGGAATGACGCGGTGCAGGTTTC
GTGCGGATGGATTTCGTCATTCCCGCGCAGGCGGAATCTAGACCTTAGAACAACAGCAAT
ATTCAAAGGTTAGCTGAAGCTTTAGAGATTCTGGATTCCCACTTTCGTGGGAATGACGGG
5 ATTTGAGATTGCGGCATTTATCGGAAAAACAGCAACCGCTCCGCCGTCATTCCCGCGCA
GGCGGAATCCAGACCTTGGGATAACAGTAATATTCAAAGATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 698>:

GNMIK41TF gnm_698

10 CCGAGTCCGTGCCGTCTGAAGATGCTTTGGGCAAATGGTGGAAAACCATAGAGGAATGGC
GTTCCCGAGATTGCTTGTGGTTTGACAACGGCAGCGAAATTATCAAGCCACAATATGTGA
TTCAGAAGCTTGCCGAGATTACCGGCAATTCGGCAATCATCACATCGGATGTAGGGCAGC
ATCAAATGTTTGCGGCTCAATATTATCCCTTCGAACGTCCGCCCAATGGCTCAATCCG
GCGGTTTGGGTCCGCAACACAGGCGCCTCTCAAACCTGCAGGTCCCGAGCCGCTGCTGC
15 ATGGCTTTTTTCGAGTTTGGCGATTTCGTTAATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 699>:

GNMIK42TF gnm_699

CCGTGGTGTGACTGCGTACCTTTTGTATAATGGGTCAACGACTTACATTCACTAGCGAGC
20 TTAACCGAATAGGGGAGCGTAGGGAAACCGAGTCTTAATAGGGCGATGAGTTGCTGGGT
GTAGACCCGAAACCGAGTGATCTATCCATGGCCAGGTTGAAGGTGCCGTAACAGGTAAGT
GAGGACCGAACCCACGCATGTTGCAAAATGCGGGGATGAGCACGATGGGCGTGGGTCTGC
CTTATGCGATTGGTGCAAAACTTGCCGCCCGGATCAAGACGTATTCTGTATCACCGGCG
ACG

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 700>:

GNMIK48TF gnm_700

CCGTTTTCGGTTTTTCCGATAAATTCCTGTTGCGTTGCGTTTTTGGATTCCCGCTTTTG
CGGAATGACGGTCGGTGGGGTTTTCGGTTTTTCCGATAAAGTCCTGCTGCGTTGTGTTG
30 CTGGATTCCCGCCTGCGCGGGAATGACAGCCGCCGACGGGAAACGACCATAACAAATTA
TTGACAACCCCATTTATTGCGAAAGTCAGCCTAGGAGAATCCTCTGTAAACCGGTCTGA
GTCTTCTTTTCCCCGTACTCAATAATTTATCCGCCGCTCTTACCACCAAATTCATTT
ACAATTTGTAAAAATCGTGTGCGC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 701>:

GNMIL13TFB gnm_701

CGTCCGACCAACCGTTCAAACTTTTCAATTTTACCCGACCACGCAAGCCGCCGAACAAAA
ACAAGGGGCTGTCCTAGATAACTAGGACAACTTGATTTTACTAATTGTTTAAAACGGA
CCAGGACTTTTAAATTAATGGTGGTTAAAAGGCATTTGGAATTCCTTAAATCAAGTTAA
40 AA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 702>:

GNMIL82TFB gnm_702

5 CCGACAAATTTTGGCGCATGGCTTTGATGCGGCCGCGCATTTTCATCGAGTTCGGCAAT
CCATTGTGCTTTCAAATCATCATTTTTCAACATCGTCGCAATGGTGTTGCGACCGTGTGA
AGCCGGGTGGAATACAAGGTACGGATGATGGTTTTGACTTGGCTGTGGGCGCGGGCTGC
TGTTTCTTCATCTTCGGCCACCAAAGTGAACGCGCCGACGCGCTCGTTGTACATACCGAA
GTTTTTGAATAAGAGCTGTCTATCAGCAATTCTGTATTGTGTTTTATGATCACTCGCAA
GCCGTTGCATCTTCTTCCAAACCAT

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 703>:

GNMIM22TRB gnm_703

15 CGGTTACGGGCGCGAATTGTCCGCATTCGGGCTGTACGAGTTCGTCAACGTCAACACCTA
CTGGGAGAAATGACACACCCCGTGCCGCTTCATACGGTATCGGGTTGCGCTAGAGCCGA
TTAACGGCAGTATTTGTTACGGCGTTATTGTATTTCCGAATCAACTCATCCTTGTTTTT
TGCAATTTGAATTTCCACCGCCTTCAGGTTCAATTTTGAAATCCGGCAGTTTTCTCTTT
GGTCTGCCGTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 704>:

20 **GNMIP07TF gnm_704**

CCGCAAATACAACCCGATTTTCGACTGGTCGGAACACGACGTGTGGGCATACATCCTCGC
CAACAATGTGCCTTACAACGATTTGCCACGTAAGGATCCCTTACCGAGAATGCCGAAAA
CACATCAATGACTATCTCGCCAAACGCGGCAAAGGCTTGGGCGTACGCTTGGGTGTGAAA
ACCAGCGGCTGCTCGGGATGGCGTACAACCTTGAATTTGTCGACGAAGCCGATGGCGAC
25 GACCTGATTTTCGAAGGACACGGCGCGCATTTATATCGATCCGAAAAGCCTGGTTTTAT
CTGGATGGCAGCAAGTCGATTACACCAAAGAAGGTTGCAGGAAGGATTCAAATTTGAA
AACCCCAATGTCAAAGACTCCTGCGGCTGCGGCGAAAGCTTCCACGTTTAAGGCATAAAA
ACGGCGGGACCGTATCAAACCGTCCCGCCATTTTACGCTTACTGCCTGTTGTAGCTGC
CTTTGCCTTTTCCTTTCCGTTCCACCTGTGCGGGAACAAAT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 705>:

GNMIP26TR gnm_705

35 GACGTCGAGGTTGATGGAGTGGCTGTACCCGACCAGCACCAGAACCGGTGCGGTTTCACC
GACGACGCGCGCATGGACAACAAGATGCCTGACACGATGCCCGGCATCGCGATCGGGGC
GACGATCCGCACGATCGTCATCCATTTGGAACGCCAAGCGTAGCTGGCTTCTCGCAG
TTCATCGGGCACCAACCTGAGCATCTCCTCGCCTGCCGGAACCACCACCGCAACATCAG
CAGGACCAACGCCAACGCCACGGCAAAGGCGCTCTGCTGAAATCCTATGGTGGCGATCCA
CAGGCTGAAGACGAATAACGCCGCCACGATAGAGGGCACGCCGGC

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 706>:

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GNMIP64TR gnm_706

ATGGGCGTGGCTTTGGCGCGGGCGTGCCGTGCCGCCGGTGCAGAAAGTCAGCCTGATTAC
GGACAGCTTCAAACCGCGCTGCCTTTTCGGCATATCCGATACGGTTCAAAGCCGTCAGTGCC
5 GAAAAATATGCATCGCGCAGTGCATCGTTTAATCGACAAACAAGATGCTTTTATTTCTGTT
GCCGCCGTCTCAGACTATAGGGTTAAGAGGAGGAGTACTCAGAAATTCAGGAAAGATAGA
ACTGCCAAACCGTTATCCATCGAATTGGCTGAGAACCCCGAGATTTTGGCTTCTATTGCC
TCATTAGCGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 707>:

10 GNMIP74TR gnm_707

AGTGGGTGTCGATATTTACAACCTGGGTAACCTCACCCGTTCCAACCAGTCTAGCAATAT
CAATCATCGTCCTGCCGTCAAAGCCGGCGATGTTTTGCAACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 708>:

15 GNMIQ34TF gnm_708

CCTGTCGTCTTCGGCATCGCCAAAGAAGGCTCGCTCAAACGCGTCATTACCGGCGAAGAC
GAGGGAACGCTGGTTCACTGCTGATTGACCATAGTGTCCGCAGATATAGTCGCATATGGG
CTTCAGACAGCCATTTATTATATGGAGATTATAGTGGACATCCCATGGCATCGACATCAC
CTCTGGTGGCAGCATCCACGCCTACCCACCGCATTTCGATGCCCCCAAAGGCAGCACTAA
20 CATCGAGGCTCCGGCGGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 709>:

GNMIQ67TF gnm_709

AAACTGACGTTTGTCTTTCCAGGATGAGGTAGAACCATGATTTATCTGTTTACAGGAAAC
25 ATGGGGACAGGCAAACCTCCCGCGTCGTCTCTATGATTTGAACAACGAACACGGATTG
TTCAAATGAAATTGGCACACGGCACATATGTAGACAGACCGCTTTACTTCTGCCATATC
GACGGATTGGATAAACCAGCAGTTGAAAGCCCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 710>:

30 GNMIW65TR gnm_710

TCCATCGGGTCGAGCGACTCGTCCAACCTATGCCGCCCTTCCTCCGCTACGGTATCCGTACC
AGCCTGCAGTCCAAACATGTCTTGCACAACTGCGGCTTCGTTGCACAAGCCGATAACC
CCTTCAGTTATAGTGGACAGCAACCGCTTTTTGAAAGACAGCAGTGATATTGTGTTGGAT
TTTCCGTTTAAAGATTGTGTGTTAAATGGCCGACAAAGCACCGAGGAAGGCGAAGAAATT
35 TATTTTAAACGCAATAACAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAG
CCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAG
AGAGAGACAAGAAATCTTTTTTAATCAAACCTTGCTTTTGATGAAATTGATCGGCTTTT
TGACGCACAAGCATTTCTCAAATTTCTCTCGCTATACCGCAGACGGCAAGCAAGCCGTTTG
CGCAAATCAAACGACAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 711>:

gnm_711

5 CAGTTGGCATTGTTAGATAATTTGATTACAAAATGGGCGGAACTGGTTCGAACTGGGGC
AAAAAATCACCAATGyGACTTTCAACCGAyTGGACGCAAACGGCTAATGAAGGTATTGCA
CTGACACCATCCCCAAGTAGCACAACTAAAAAAGAACGCTTTAGTTTCCCTTTCTGATAAA
GCTAAAGCAGCTATTGACGCCGCCCGCGACCGCATTGCCGTGCTTGATGCnTACACGGGG
CAGGATTCCAACACACTCTATTACATGAGCGAGGAAGATGCGCTTAATATCGTCAAAGTA
ACCAACGATACATACGACCATCTCGCCAAAAACATCTACCAAACCTGTTGTTCCAAACC
10 CGTTTGCAGCCATATTTGAATCAAATCAGTTTCAAATGGAAAATGATACGTTCACTTTG
GATTTTAGTGGTCTTGTTCAAGCATTTAACCATGTCAAAGAAAGTAATCCGCAGTGGTAC
CGAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 712>:

15 **GNMIX74TR gnm_712**

TAATGCCTGTAATCCATGTCTTTAACGGCAGCTCTGGCAGAAGCGGCCACAAGTTCTTG
TTCGACCGCAAAGCGTTTACCTCCGCCATGCGATGGAATACCTGTCAGTGTCCCGCAGGC
GGATAAAATAAAAAGTAAAAAAGAATAGGTATCAGCAGCCGTGCTTGCATAGATTTTCT
CCTTTGATGAAAAACAAATTGTATCAAATTTGTAATATAGTGGATTATCnGTCCGGCGTA
20 ACGCTATTGGACGGTTCCCGTCATGCCCGGAATCCAGTGAAGGAAATTGAAGTGGCCCGC
GTGTTACAATATATCGGACTGCAAAGCGGTTTCGACCACGGAGGCAGCCGTCCGTTTTATG
CTTTAGTGTATGCGGCAGCAGGTTTTTTGGGACGGCAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 713>:

25 **gnm_713**

CGTACGGCTTTCTCTAAAAATACCTAAACCGTCATTCCCACGAACCTACATCCCGTCATT
CCCACGAAAGTGGGAATCCAGGACGAAAAATCTCAAGAAACCTTTTTACCCGATAAGTTT
CCGTGCCGACAGACCTGGATTCCCGCCTGCGCGGGAATGACGAAGCTATCCATACGGAAA
CCTGCACCGCGTCATTCCCGCGAAAGTGGGAATCCAGAACGTAAAATCTCAAGAAACCGT
30 TTTCCCGATAAGTTTCCGTACCAACAAGGCTGGATTCCCGCCTGCGCGGGAATGACGAAG
CCATCCGCACGGAAACCTGCCGCGGGCATTTCGGATATCGTGGTCTGGCAGCTTGGCGG
CAGGATGCGGAAGACTTCAACGAAGCCTATTGCCGCCATGTACGCCGCAAAATGAACATA
CCGGAACATTTGGCATATTTGCCGGAGAGCCGATTATGATCAGGCAGAACGACTACGCG
CTTGAACGTGTTCAACGGCGACATCGGACTGATTATGGAAGATGTCGGACGGCAGGGCAGC
35 CTTGCCGCCCTATTTTGCCGATGCGGACGGATTTAAAAGGTAGCGGTAAAGCTGCCTGCC
GAATTTGAACCCGCATTCCGCATGACCGTCCACAAAAGCCAAGGTTTCGGAATACCGGGAA
GTATGGCTGCTGCCGCCCTTCGCCGCACCTTCGGACGAAGGGGACGATGCATTGTCCGGA
TTGAGTAAGGAGCTGTTATATACCGCCATTACCCGCGGAGAGAGAAGTTCGTATTCTTC
GGCGGGGAAGAAGCCTTCGGCAAGCTGCCGCCACCGTCAAAACGCGTCAGACGGCATTG
40 GGCAGTATGCTCGAGCGGTATTTTACAAAGAATAATCCGCCGAATGCCGCGCCCGCGC
CCCTTATGCCTTTTTTCAAACGGTATAGGAAAGTGGTTTCCCGGGTTCGCGCAAAAGCAAG
CGGATCGCTCGGATTCGCGGCTTTTTTGTGCTTCGGCTTGGTTTTCATCATATCGGCAAC
ACGCAAAACCCGCTGAGCAAATGCCTTATCCATGAAAATCGGATG

45 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 714>:

-829-

GNMJD95TF gnm_714

CGCTGCGGCATAACCTTCCGCCTTGTCGACGGCAGTATAGGCAGCCGTGTTGACAATGGC
GTCGGGTTGGAACTTTTGACCATGTTGCAGACGGCATCGGCATCGGTAATGTCTAGGGA
TGCAGGAATCCGTCGCAATGGTTTCCAGTCTTCCGGAAGACGGTCGCGCAGGCAGCGTGC
5 CAGTTGGCTTTTCGAGCCTGTCAATAGGATTCTCATGAGGTATTCCTTTGGTAAAAGTG
TATTGTAGGACTTGCTGTCGGTATTATAGTGCCAAAATTTGCCGCCTGTCGGGCAACCA
ATAAATCGACTTTGCCAGTTTGGCGGCAGCGGTAACAGCATGCAAAGTGGTATGATTCA
ACTGTTTGTGTCGTGTTGACAATAATCAATACACTCATTTACGCCTCCTCAAATCACT
TTGGCTTCGTTTTTCAATTTTCAACCAATTCGGCAACGCTTGCTACTTTTACGCCTGCC
10 TGACGCGCCTTAGGTTCCGGCAAATTTACCGTTTCAAACGAGGTGAAATGTCGGCAACC
AAATCGTCAGGAGTCAGTTTTTCAAAGGTTTTTCTTTGCCGCCATGATATTGGGGAGT
TTGACAAAGCGCGGGTTCGTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 715>:

15 **GNMJE78TF gnm_715**

GGGTACTAACCGATGACTTTGACGAACGAAGCGGTTCCGCCAAGCGTTCCAATGCCGTC
TGAATCTGCGCGTACCGCGGTGTCTTCGATGTGATGAAGAACAGGTATTTCCACAAA
ACGGATTGCTCGGACGGCTCTCAGACTAGGTCATGGAATACCGGACTCCGTCAG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 716>:

GNMJE88TF gnm_716

AACCGCCCAAGCCATGATTGCCAAACACATCGACCGCTTCCCGCTATTGAAGTTGGACCA
GGTGATTGATTGGCAGTCGATCGAACAATACCTGAACCGTCAAAAAACCGTTACCTCCG
AGACCACCGCGGTGTCCTCCGATCGTCCACGTGGTGTCCATGTTCAAAGCCGTTCTGCTAG
25 GACAATGGCACAACCTCTCCGATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 717>:

GNMJH15TF gnm_717

CCGCATAATCGAGTGTACCCATTTCTTGCTTGCCATCGGTTTCAAACCCGCAAGACAAGG
30 GCGAACCCTCAAAGTCGCCGCTTACATCTTCTGACGCCGCCGCGGACATGAATG
TCTATCTTTCAGGCTGGCAACTGATTGACGGTATGGTAAACGTCTGACGCATCGTCCACG
ACCACTAAAGCGAATGTTGCGGCTTCGGCGGCACATTCTCCGTCAAACAAGCCGATATTT
CCGGC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 718>:

GNMJJ79TR gnm_718

GTATGGGTTTTCCGGCGCGGGGAAAACGTCAGGCATCGCGCCGTATCGAAATAACCGGAC
CCGCAGACCCAACGGCAGTCCTGAACGACGACCTCGTCCAACAAGCCAGGTCTTCCTGC
AAAGCCGGGACATTGTTGAGCACATGCCGCCGAAATGGGGAATCTGCGCCGAAGGTTGC
40 GGCACAGTACGGTGCCGGTAGCGGTTTCGCAAATAAGCCGTATCGGTATTGCTTTCAGCC
TCGATATTCGGCACAGCGTGTTCCTTGGGCATAA

-830-

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 719>:

GNMJJ84TF gnm_719

5 ATTTTGCTCAATATTAGGAAGGTTTTAAGCAATTGAAAATTTGTTGGCGCATTTTTATGC
GTCAAATTTGTTAACAGACTAGTTTTGCAAAGGTCTCTATATTGTTTCGATATTTTGAA
GACATCGATTTTTTAGGGAAACGATTGTTTACGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 720>:

GNMJM49TR gnm_720

10 CGTTAAACGACGCAGCCGGCACTGCGCATTAAAAACGTGCCGATTGTAAACGCCGCCAAT
ACCGCCAAATCGGGAATGCCGTCTGAAGCCAGCCACAATGCCAGTAGGTCCGCCACAGT
AAAAGCAGCGTCCCAATGGGCTTGTCCGCCCGCATCAGGCGCAGGTACACATCCAAACGG
TCGGACAGGCGTAAAAATAAAGGGGATTTAGGATTCATATTGCCGCGCAGCTTGAAAAAA
CGGTATTTTAGCCGAGAAAACGTTTCAGTTCGGGCAGAAAATAGTCGGTAAACACGATTT
15 CGTCAACGTGCCCGCCGGCTCGGTAATGCTGCGCGTGTATCGAAAATATCCTTGATCGC
GC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 721>:

GNMJN57TR gnm_721

20 CGGCTGCTTCTATCTTTGATGCTCCACCATAAAGGTATTGCCCGAAACCGGCGGATGGAG
GTTTTGTTTTCTGCCGCCGCCGTGATCGCTTCGTGGTTCGCCAAACGCGCCTGTTGCA
GCCTCATTTGCGCATAATCCTGCTCCAAGGCGATTTCTGTATTTTCGCCTTATCCAAAG
CTGTGATATTGAGCCTGTACTGGTTTTGCTGCATCACAACGGCAAAGCGGCAACGCACA
CCGCATCCAGCAGAAGGAAATTCACTTTGTTCAT

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 722>:

GNMJO71TR gnm_722

30 CCCATACTATATGTCTTAAGTGAGGAATACATGGTTTCATTGATGAACCCAAATTTGACCC
TTGTAGCAGATGCTGTGAGTGCCCCACCCATATGTTCTTTGCCTGTCAGACAACGATACA
GCCCTTGTCGGTACGAATATCGTCTATGCCGCCATCCCAACTTCGGCGGTATGGCGGGG
CGCAACCGCAAAGTTCGGATTCCGCAACGGGAATTTTGACGCTGACGGACGACGACAAA
CAGGCTTTGATGGACGATGTGCAGGATTATTTTTTCGGGTCTGATACCGTGAATTTATAAA
ACCCCTCAAAAACGCGCTTTTTAGCGCGTTTTTTTATGCGGGTAATACAAACCCCTGCCCA
AGATATAAAAATCAATCCTAGACGCTTCGAAAAGCCCTGAAAACGATTAATTGTGTAT
35 CGCGCGGACAGGTTTTAAAAAATGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 723>:

GNMJQ51TF gnm_723

40 GCTTCATCGTCTTCATCCCAATCTGACCCCAAACATTTCGCCTTTTGGTTTGACGTGATGA
CAGGTAAACATACCTTTAATTCGGTCTTCACGGGCTTGGTTCGGGCTGTATTTCGACGTTG

-831-

AAAAAGTCATTTGCGATGTCAACGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 724>:**gnm_724**

5 CAATCCGTTAGCGAGGTGCCGCCGGCTTCCATTCAAGTCGAGGTGGCCCGGCTCCATGCA
CCGCGACGCAACGCGGGGAGGCAGACAAGGTATAGGGCGGCGCCTACAATCCATGCCAAC
CCGTTCCATGTGCTCGCCGAGGCGCATAAATCGCCGTGACGATCAGCGGTCCAATGATC
GAAGTTAGGCTGGTAAGAGCCGCGAGCGATCCTTGAAGCTGTCCCTGATGGTCGTATCT
10 ACCTGCCTGGACAGCATGGCCTGCAACGCGGGCATCCCGATGCCGCCGGAAGCGAGAAGA
ATG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 725>:**GNMJV83TR gnm_725**

15 TTTAAAATGGAAATTTGAACCTTTATCTCACTGTTGTTAAAACGCCGTTTCGTACCCCTTT
AAATACAGCTCAAAATGCGCTTTGGGAATGCCGTCAAACTTGCGTAAATGACGTTTTGCC
CGGTTCCAAAAGTTCTCAATCCATTGATATGGTTTTGTCGTTCAAGCAAAATAACTTTCA
TCTGCTTCTACTTCGCCATCAACATTTCCAAATGCGGACTGTTTTGATAAATAAGTAAT
CGTAAACGATGAAAATAATAGGCTGCGGTACTTTTATTAACGCCTACTAACTCTGCTGTC
20 GTTCTTGCAAGTTACACCTGCGACAAACAGTTCAATGAGTTTATTTGTTTATACCGGCTTA
GACGACTTTTTCTCATAGGGGCAACTCTAACTTAATTTGAATTTCCCTAGTTATCCCTAA
AGGGGGGAAACCCAAAAGGGGGCCCCCCCCCCCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 726>:**GNMJW65TF gnm_726**

25 CGAATTTGTCGGCGGCGGCGCGCAAAATCATACTTTGCAAAATTTAACAATTTGCAGGG
GCAGAAAACAGGAAGCTTTCTTTTCGTGCGGAAAATCCTTATTTACCGCCTTGTAGCC
GGAGCCGGTCAAAAGGCAAAAATTTACCGTTTTTTATCGGTAAAGAATTATCAGATAA
AACAAATATTATAGGAAAAATACGACAGGCGGTTTTATCGCGCATTCCTGAAACTGAA
AAATACAACCGTTGTCAAGACTGGAGAAAATGCCAAAATCCACTATATTGTCTGCCTTA
30 ATTTATTTGAAAAGACTGTGTCTTGAATATCAAGAGTGGAAGAGGAAGCGATGAATACAC
CGACTGATTTGAAAGTAACCAACGAGACGGAAGATTAGAAGCCATTGATTTGGATAAGA
TTCACCGTGTGCTCACTTGGGCGGCGGACGGATTGGAAAATGTTCCGTGTCGCAGGTGCG
AGTTGAAATCGCACATCCAGTTCTACAACGGCATCCGCACCGACGACATCCACGAnACCA
TCATCAAAGCCGCTGCCGATTTAATTTCCGGAAGATACCCGGACGGTGATGCTGCCAACT
35 TACTGATTTAGTGATGATGGTGTGTTTGAAGTGCTCCAGTGGCTTCTGTTTCTATCAGC
TGTCCTCCTGTTTCAGCTACTGACGGnGTGGTGCGTAACGGCAAAGCACCGCCGGACAT
CAGCGCTATCTCTGCTCTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 727>:**GNMJY95TF gnm_727**

40 CTAGAGATCCCTGGAAAAACACACAGCCGGCACACAGACTATCTCGCTACCGCGACGCG
ATTGCCAACAACTGCTGGAAGTCCGTTTCGCCACTCGGCAAATCGACAGCCTCAGCAGC
AGCCTGCGCGGGAAAGTAGAAAACATCCGCAGACTCGAACGCGAAATCCGCGACATCTGC

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CTCGACCGCGTCCATATGGGACGCGACTACTTCATCCAAAACCTTCCTGCCCGAAATCACC
AATCTAGAATGGATTGAAGAAGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 728>:

5 **GNMKA52TF gnm_728**

GGTCAGCCCCGGCAAGGGTCGAATATCTGATCGATATGCCGATGGAACGTTCGAGAAGGC
GGAGGGCGGCGTTTTGTATGTCGGCGACATCGCCAGTACAGCCGCAACATCCAAGCCGG
TATTGCCTTTATTGTCTGGAAAGGCGGAACACCGCCGCTCAGGGTGGTCGCATCGGGCAG
10 CAGGGCGGCAGGTTTCAGACCGCATGCTGCGAGAAAGGTGGCATGATTGCTGTGGCAT
CGGTCGTCCGTATTCGCCGCTGCGTATGCAGCATGAAGACATTCCCTTCCTGATACAGG
GGATTGCCTGCAATGTGGCGGAAAGCCAAAAGATTGCGCCTGCCTCATTAGTGAATAGG
CACTTGTGCGATTGCACACGTTCAATGGCTGGCGTTCTATTGACCAACTGCAAAGCGTC
GTTGCAACGCTGTGTGTTG

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 729>:

gnm_729

CATTTCCATACCTATGAAATCAATAGCAGGATTTAAGTTCAAGTTCAGCTCCAGATCTTC
TAAGCTGGAGGACAAAAAGGCGAAAAGATATGTACTGGTTTCGCCTCTGTTTGCTTCTT
GCTGATCAAGAACCTCCCCGATGTATTCGCAACAAATGTGCCACGCAGTATATGTTTAC
20 AAGCTCGCAATCCCCATCCCTGTTGATCAATCAGTTGGATATTGGAATTGAATCAAGACA
AATGGGTTAAAGACAATAACTCAAAAAGGATCACACCTTGCTTTTCAGTTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 730>:

gnm_730

AAGGGGATACTAGAGCATACTCAGTGaAGAAGCAAAGAAAATCAACAGGTTTCAGTAGAA
AAAAATCGAAACTGGGATCGTAAGTTTACCAGGAATTGACGAAACCCGGAATCTCGTTA
CTCTCTTCGAAAGCCCCAAACACGAAACAGTCTTGTCAGTTGCTCAAGCTCCGTGTTTCC
TGAGAAAAAACCCATAACCTAATCAACAACCAATTGTTAAAAATCCATCTTTATGAGAA
ACAAAGAGAAGCTAAATCAGAGAGGAAAGTTGGTTCATACCTCTGAGTCTGACCAGAGAC
30 GACGGTAGCAAAAACGGAAATTTGATGCGAGAAAGCCGAGAGGGTTTTCTTATTTATTT
TTTAGTCCTTTAAACCGACCTTTGACAAAAAAAACGACTTTGTGAAAACGGGCCGGTT
CATATTGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 731>:

35 **GNMKV51TF gnm_731**

TCGTGGTCGAACCTACATCATCCGCCATGACGTTCCGATCGGTGAACGCAGCAACTACC
ACCTCTCCAGACATATGAACCTTATACGGCTTGGGCGGCTGCGGAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 732>:

-833-

GNMKY49TF gnm_732

5 CAAAATCGAAGGCGGGTTTGTCTGTTACTCGGCGTAACGCATAGCGACACAGAAAAAGA
TGCACGCTATATCGCCGACAAAATCGCCATTGCGCGTGTGTTGAAGACGAAGCGGGCAA
GCTGAACCTGTCTTTGAAAGATGTCGGCGGCGCGGTGCTGCTGGTGTGCGAGTTTACGCT
10 TTATGCCGACGCGGCAAGCGGGCGGCGGCTTCGTTTTCCCAAGCCGCACCTGCAGAACA
GGCGCAGCAGCTTTACCTGCGAACGGCGGAACGTGTGCGCGGACACGGGATTCATGTCGA
AACAGGGCGTTTCCGCACGCATATGCATGTCTCTAACGTGCTGAAGCACCAGTGAATCG
GTTCGGTACTATCTGTACTGTCTGCGGCTTCGTGCGCTTGTCTGATTTTTGTAAATCCA
CTATAAAGACCGTTGGGCATCTGCAGCCGTCATTCCGCGCAGGCGGGAATCTAGTCTGT
15 TCGGTTTCAGTTAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 733>:

gnm_733

15 TATGCTTGGGACAATAGCGGAAAAACACCGCCTTTCGCTTCGGCAAAACGGGAAAACCGCA
AGGCGATGTCTGATACGGATTTCGGTTTCTGCTCGTGCGCAAAACGATGTTACGCCCCA
CCGAAACCGACTTCCCTGCAAACGCGCCCTTGTGTTGCCGCTCCATAATCCCCGGCCCGC
CGCCCCGAAATGACGGCAATGCCGAATCCGACAGCCGCGCGCCAGACGGCAGGCGAACG
CATAATCCGCATGATTCTGCGGCGTGCGCGGCTGCCGAAGATACTGACTGCCGGAACA
20 CGCCCCGCAATGCTTCGTCTGCCTGCCTGCGTTTCGGCATCATAACGTGCCTGCTCCGGCA
CACGGTTTGTATTCTCCATTCCATCCTCCGTTCAAAAACAGCGATTGTACACCGTCAAAA
ACGTATAGTGGATTAACAAAATCAGGACAAGGCGACGAAGCCGACAGTACAAATAG
TACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGG
CGAGGCAACGCCGTACTGGTTTTTTGTAAATCCACTATCATATAGATTTTTATGCCATTTG
25 GTCAGAAACAGCGAAGACAGGCAAGGAAACGCCTTCAGTTCATCGCGTCTTCAAAATCA
TCCCAAACATCGCTCAAATTCTGTTTGGATATGCCGTATCCCGTCCGGCAAACATCACG
GTCTTTTTTGCTTTTGGCGGCTTTTTTGAATGCCTTTCTGTTTTTTCGGGTATCTGCTGC
CATCTCAACTGACGGTACACGTCGTAGCCGTCGCCCCAAAAAGAGGCATACCGTTGCGTG
TCTTCGCCGACCAGCGGCGGCTATTCCCAACCCGTACATATCCCGTCGGCAGCAGCGCA
CTTGCCTTATATATGT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 734>:

GNMLC88TV gnm_734

35 AACTACACAACCACGATTTAGCGAAAGGTATAAAAAATGCGGGTCAGAATTTAACATCAA
TGCAAACGCTTGATGAGCATAATAAACCATTTGATGACTGCGCATTTAAACGAGATACAC
TTAATGTTACATTATCTCGTCAAACACTAATCAGTATTATTCAGTCTTATGTACAACAAG
ACAGCATTTATTTAAACATGGCGTAACATAAATAGATAATAGTAATTCAAAAGTCATTC
TTCATTTTCATGGAACAAGAAAGTGAAGCCTTTGATTTATGTATTGGTGCAGATGGCATAAC
ATTCAATTGTTAGAGAAGCTATTGATAGCCAAAGCAAGGTTCAATATCAAGGCTATACAT
40 GCTTCCGTGGGCTAGTCGATGATATTCATTTAGATGAAACGGATGTAGCTAAAGAATTTT
GGGGCAAACAAGGACGCGTTGGTATTGTGCCATTAATTGATAACCAAGCATATTGGTTTA
TCATAATCAACGCTAAAGAAAAAGATGTCAAATACCAATCATTTGGTAAGCCACATTTAC
AAGCAGCATTTAATCATTATCCCAATATTGTAAGACAAATATTAGATAAACAAGTGAAA
CAGGCATTATATAACGATATTATGATATGAAACCACTAAAATCTTCGTAAAGAGC
GTACTATTT

45

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 735>:

-834-

GNMLC88TH gnm_735

ATATGAGCGTCGGAGTTATAACGAAAGACATTTATACAAAAGAAGACGAAAAGATCTTAG
TTAATACAGGTGTCTTACCTGAAGATAGAATTATTGGTGTAGAAACAGGTGGTTGCCCTC
ATACAGCAATTCGTGAAGATGCTTCTATGAACTTTGCTGCTATTGATGAGTTATTAGAAC
5 GTAATGATGATATTGAACTTATCTTTATTGAATCTGGTGGCGACAACCTAGCAGCTACAT
TCAGTCCTGAACTTGTAGATTTTTCAATCTATATTATCGACGTGCTCAAGGTGAAAAAA
TCCCTCGTAAAGGTGGACAAGGTATGATTAAATCAGACTTTTTCATCATCAATAAACCGG
ATTTAGCACCACATGTTGGCGCATCGTTAGAACAAATGGCTGAAGATACAAAAGTATTTA
GAGGCGACAGACCATTGCGGTTTACTAACTTAAAAACAGATGAAGGTCTTGATGAAGTGA
10 TTAAGTGGATTGAACGAGATACTTTACTTAAAGGATTATCATAATGTCTCAACAAGCTTG
GACAGGTCAACTTGATTTAACCGTATTTAATAATGGAAGTCGTTCCGTTGCACGTGATAT
CTTTTTTGAAAAGCATTAAAAGTTAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 736>:

GNMLC90TH gnm_736

AACAATCATTATGAACCCAAACCCCTTCCGTTTCCGCCTGACTGCCCTTGACGAAGTACG
TATGCCAATCGGCGACGGTCAAATTGTAAGCTTTGACCGGCTGCTGTTGAAGGTAATGT
TCTGAACC

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 737>:

GNMLD05TH gnm_737

GTACGGCGTTACCAACCTGCTGCTGCTGGGCAATTTTGCTGCCGCACAAAATAAAATTAT
CAGGGAAAGATTGTAAGGCAGCTAATTCACTAACGGTTAACGCCCCGATTCTGTTCATATT
GAAAAACTTTGCGCATATCTCCTGTAATACAAACGGCTGGTTTTGTTGCTGTTGTCACGG
25 ATGTATTTACGGATATCACCTGTTTTTCGGACGTAATGGTTCATGAATATCGTTACGGTTA
CCTCCATTTTTAACAAATGCCATTTTTTCTAACATTTGTGCCGAATGATTCATATCTTCA
TGATTTGCAACGTGTGGATTGCTTTCGCCATCATCCAGTTTTGGAAAATGTCCTATTGCT
GATCCAACAGTCTGATGGGAAATCTGCAATGTTGAGGAAATGAAATTTTGCCTTTATCC
CTCTCCCGATAAATATCACTCGGCTACTTATCTTAGGAACACCGAAATCGGCTGCACTC

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 738>:

GNMLE03TH gnm_738

TCGACATTGCCAACAGCGTCCCGGGTGTTCGGATAATATGACGGACAACGGCAGAACCG
ATAAAGCCCGCGCCTACTGGCAACAAGTGCCGTCTGAACAGCACGAAGCCTTCCGTTCC
35 ACCATATTTCCACCGATGAAGTCTATGGCGATTTAGGCGGCACGGACGAGTTGTTACCG
AAACCGCGCCCTACGCGCCGTCCAGCCCCCTACTCTGCCTCTAAAGCGTCCAGCGACCACC
TCGTCCGCGCGTGGTTGCGTACTTACGGCTTGCCGACCATTGTAACCAACTGCTCCAACA
ACTACGGTCCTTACCATTTTCCGGAATACTCATTCTTTGATGATTCTGAACGCGCTTG
ACGGCAAACCGCTGCCTGTGTACGGCGACGGTATGCAATCCGCGACTGGCTGTTGTGCG
40 AAGACCACGCGCGCGCACTGTATCAGGTTGTTACCGAAGGTGTTGTGCGCGAAACCTACA
ATATCGGCGGCCACAATGAAAAAGCCAATATTGAAGTCGTCAAACCATCTGCGCCCTGC
TGGAAGAACTCGCTCCCGAAAAACCGCCGGTGTGGCGCGTTATGAAGATTTGATTACTT
TCGTACAAGACCGCCCCGGCCATGACGTACGCTACGCCGTGACGCGAGCC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 739>:

GNMMC45TR gnm_739

5 CGCGGGAATGACGAATCCATCCGTACGGTAACCTGCACCACGTCATTCCCACGAACCTGC
ATCCCGTCATTCCCACGAAAGTGGAATCTAGCTTTTGGAGTTTCAGTCATTTCGATAA
ATTGCCTTAGCATTGCATGTCTAGATTCCCGCTGCGCGGAATGACGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 740>:

GNMMC79TR gnm_740

10 GCGGCAGACAAGAATGGCTCGAGGCGTTGCGACAGGCCCTGCTTGCATCTAAAATCATTT
CCTACGCACACGGCTTTATGCTGATCCGCGCAGCGCCGAAAGCTACGGCTGGGATTTGG
CCTACGGCACCCTGCGCTGCTGTGGCGCAGGGGTGCATCATTCGCAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 741>:

15 **GNMMD20TF gnm_741**

ATCCCCGAGGAATCTAGGTCTGTCTAGTGCGGAACTTATCAGGTAAAACGGTTTCTTGAG
ATTTTGCCTCTGGATTCCCACTTTCGTGGGAATGACGCGATTAGAGTTTCAAAATTTAT
TCTAAA

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 742>:

GNMMD36TF gnm_742

ATCCCCAAAATTTTTTTGAGTTTCTCAAAAGCGATATGATTAGACTGTTGAGAGGTGAAA
GTAAAACAACAGACTTTCAATGGCCGCAATTTGATGAATAGCAGCAAGCTGTAGCCTGCA
TGAAACCTAAAATCCATGCGTAAGGTGTGTGCTTCAGCACGCACGCGTTCCATGATTAC
25 GGCTCAATGCCGTCTGAAAAGCTCACATTTTTTCAGACGGCATTGTTATCTAAGCCAGT
ATTCAGCTTCACTATATACCGGCCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 743>:

GNMMG74TF gnm_743

30 GCCAACCTTTATCGTAAACATATTCAACTGATAGTTCCCGAACTCTCGATATCCGAAC
TAAAAAGAAGAAGAGCAGAGTAAGAGGCAATAGAGGAACAAGTAAGAACAAAAATAGCA
AAATTTTCAACTTAGTTAACAATAGTTACCTCTCCTTTAAATTCAATCCTGAAAGGTACC
CCTTACCCGGGGCAACCAATTATAGTTCCCATATTTCAAATATGGTTTAAACATTACTT
TTTTCCCCCCCCAAGGGAATGCATTTTAAATCAGGCTTTTCAGGTGCAAACCGATACTT
35 ACCATTACCATCTTTAACACAGATATATTTCCAGGTATAGCCCAACGTGAAAAATCGGA
GTATTATATACAGTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 744>:

-836-

GNMMH29TR gnm_744

CGTATCGACATTTCCATTAATCTCGGATTCGCTCGCGGGACAGAGCAGTGACGATGGAGG
AGCGAGCCAGATGCGCATCGTCGCCAACAGATCTGCAACAACTGCGATCGACCAAACGCG
ATTTGTCTCCGCCACGTATACCGGCTGATCCAATTCCGAAGAATACAGAGAGCATCATC
5 CTCCACCATCCGCACGAGTATAAAGCTTGTGCTAAGGAAGGAACCATTTGGGAGGATATGT
AACTACGGCGCTTAGGAGCCATTGAACCTGACGGTGAATAAATCGAGAGGAAGCTTATTA
GTGTTTAGAAAGAGATGGTGAGGTTCCAATCTAACTCAATTGATGGGTAAATTTGTTGTT
TCTATTCCGAAGAAA

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 745>:

GNMMH29TF gnm_745

GCGAAAGAACAGAAGTCATTGATGAGAACAGGTTTGTGCGGTGTTAAAATAAACGAATTT
TATGTAATAAATACTGGTATCTACATAGAGTATTATAAAACATGCGTGTGATTAATCTAC
GTAGGTAAGCAGCAAATTCAGTCAAAAGAAGAAACATCATCGACCATCTCTAGTGAATTA
15 CTGAAAACCTGAAGAAATTATCTCATCCCGAGTCAAAGTGAACCGTGGACTGTACTTGCT
CATAAGAAGCCTCAGAAGGACTGGAAAGCTTACAACCCAAAGACAATGAGACCTCCCCCT
CTACCAGAGGGTACCAAATGTGTGAAAGTTATGACTTGAATGTTAATGGACTGAGAGGA
TTGTTGAAGTTTGAGAGCTTCTCTGCTCTGCAGCTTGCCCAAAGAGAAAATTTGACATC
TTGTGCTTGCAGGAGACTAAACTCCAGGTCATAACTTTAGACCTTCTTAAGTTGTTTCT
20 GCTCTATATTTTAAACACAGCCAATCTAGAAATCTCTTGTACTAAAGACATACGCAnACT
TATGACAGGTGAAAGATGTTGAGGAAATTAAGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 746>:

GNMMH47TFB gnm_746

TTGCTGTTCAAGCTGTTTTTCAAGATTCTCGTAATATTCGTACATATAATAAGGGTCTTT
GTACGGTTTTGAATGCGGTCTGTTTCATGAATGGCTTGAGCTTTCAAAAAGGCGCAGTCGTA
CGCTTCGGGAGCCAAAGACTTGGTCAGCTTGTGATGACTCTGCTCAATCAGTTCAAACAG
TTTGGCTTTGTCCAATTCGGGAAAAATGAATTTAGACCGTTTGCCGCACGTCCGAAC TG
TTTTTTTACCCATTACAGTATCTGTCGGCTGAAATCGACTTATCTTCCTTA

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 747>:

GNMNA66TR gnm_747

GGTAATGATGAATGATAGTTTTACAAAAGTTTCGGACTACAATTTATACGTTTATAATAA
TAACAATATCCATCAAAAAAATGTGATTTTTCTTTTTTAAAAGTTGCATCTTGCCATTC
35 TTGTAATCACATTCGTAATATTCAGCATTTTTCAAATCTGAATCAAATAGATATTGAGGT
AAAACATTCCCTTCCTTATCTAGTTCTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 748>:

GNMND11TR gnm_748

GGCGCGGGACCCATGCTTTGGATGCGGTACAGCCGTCGCGTTATGTTTTGGGGTTCGGAT
ACGACCAGCTGAGGGGAAATGGGGCGCAAACATTATGCTGACCTATTCCAAAGGGAAAA
40 ACCCTGACGAGCTTGCTTATCTGGCAGGCGATCAAAAACGATATTCGACAAAAAGAGCGT

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CGTCTTCTTGGTCGACGGCAGACGTTTCCGCCTATCTGAATCTGAAAAACGGCTGACCT
TGAGGGCGGCTATCTACAATATCGGCAACTACCGCTACGTTACTTGGGAATCCTTGCGCC
AGACTGCGGAAAGCACGGCAAACCGGCACGGCGGCGACAGCAACTATGGAAGGTATGCCG
CACC GG G CAGGA ACTT CAGTCTCGCGCTTCGAAACGGGACGTTGTCCGAGTGGAGCAT
5 ATGGACGGCATAATCGTTTAAAACGGTTTGGnGAAAGTGTGAAACCAATACGTCGCAAGG
TAnCAGCAAGCTGTCGCGTTCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 749>:

GNMNE46TF gnm_749

10 TATCTGAAAGTCCGAGATTCTACATTCCCGCTTTCGCGGGAATGACGAAAAGTGGTGGGA
ATGACGGTTCAGTTGCTACGGTTACTGTCAGGTTTCGGTTATGTTGGAATTCAGGAAAC
TTATGAATCGTCATTCCCGCGCAGGCGGGAATCTGGTATTTCATGCCTCAAGAATTTAT
CGGAACAAACAAAACCCCTCCGCCGTCATTCCACGAAAGTGGGAATCTAGAAATGAAA
TGCAACATGAATTTATCGGAAATGACCGAACTGAACGGACTGGATTCCCGCTTTGCGG
15 GAATGACGGGATTTTAGGTTTCTGATTTTGGTTTCTGTTTTGAGGGAATGACGGGATG
TAGGTTTTCTTAAGCCTGCGTCCTAGATTCCCGCTTTTGC GGGAATGACGGGATGTGGGT
TCGTGGGAATGACGTTGTGCAAGTTTCCGTGCGGATGGATTTCGTCATTACGCGCACGCG
GGAATCCAGACCTTATTGCAACAGCATTATTCAAACATTATCTGA

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 750>:

GNMNE50TF gnm_750

CCCTGCAATAAAAAGATTCCGTTTTTCAAATAATATTCGAAACTCTGGCGTTTTTTTCCA
CTGTCGAAACTCCAATAGACTTTTTGCGGAAGACCGTCCGCATCATAGCCGACCACAAGA
CTGTTGCGCTTCATCCCTCGGGGCATCACTTCCCGCATACTCTGATAATCCACAGAATTG
25 CGCGAGTCCGACGCAGTTCGGTTGCTCTCTTTGCGGAAGTCGCAAACCTTCTGCTCGTCA
TTCGCGACATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 751>:

GNMNE80TR gnm_751

30 CAGGTCAAAAACCTTATTGCGTCTGGCTTTCGAAATCATGCTCCAGCAAACGCAAGTCG
CCACCGTGTTGGACTACTATCCGCGCTTCTTAGAAAAATTCCCGACCGTTCAGACGCTTG
CCGCCGCGCGCAAGACGAAGTGTTGTCGTTGTGGGCGGGCTTGGGCTATTACAGCCGCG
CGCGCAACCTGCACAAAGCCGCGCAACAAGTCGTCAGGCAATTCCGGCGGCACGTTTCCGT
CGGAGCGCAAAGACTTGGAACCCCTCTGCGGCGTAGGCAGAAGCACCGCCGCCCATTT
35 GCGCCTTCTCCTTCAACCGCCGCGAAACCATTTTGACGGCAACGTCAAACGCCGGTAGC
GTCCAAGGCGTAGTCGTCCAAATGACGGCAAACGCTTGCCTTCGAAACCAGCCAAACCG
AATGCGGCGGCAAGCGCGGCAGTGCTTTAAACAGATAGGCAACGTCAATCGCGGGCGAG
ATTTTGTCTTTGTATTCCACTTCCGCTTCGGCCAGCGAAGAACCGCAGTCCAAGCAGAAT
TGAACCGGTTTCGCACCCCGGTAGAGATAGCCGGATTGTAGATTTCGCCGAGCATACGC
40 ACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 752>:

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GNMNK53TFC gnm_752

5 GTCGACTCATAGAGGATCCACGAATCTAGACCTTAGAACAACAGCAATATTCAAAGATTG
GCGGATTGCGATTTGAAGTGCAACTTTCCCTAACAGAAAAAGGCCAGTATGCGGTAGCAT
ACGGCCTTTCTGCAAGAAAGATTGCCATGAGCTACACGCAACTGACCCAAGGCGAACGA
10 TACCACATCCAATACCTGTCCCGCCACTGCACCGTCACCGAAATCGCCAAACAGCTGAAC
CGCCACAAAAGCACCATCAGCCGCGAAATCAGACGGCACCACCAAGGGCAGCAATAC
AGCGCCGAAAAAGCCCAGCGGCAAAGCCAGACTATCAAACAGCGTAAGCGACAACCTAT
AAGCTCGATTGCGAGCTGATTAGCACATCGACCCCTTATCCGCGCAAACCTCAGTCCC
15 GAACAAGTATGCGCCTACCTGCGCAAACACCACCAGATCACGCTCCACCACAGCACCATT
TACCGCTACCTTCGCCAAGACAAAAGCAACGGCAGCACGTTGTGGCAACATCTCAGAATA
TGCAGCAAACCTACCGCAAACGCTACGGCAGCACATGGACCAGAGGCAAAGTACCCAAC
CGTGTGCGCATAGAAAACCGACCCGCTATCGTCGACCAGAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 753>:

GNMNL81TF gnm_753

15 GCGGGAATGACGGCAAAGTGGCGGGAATGACAGATCGGGCATTCCCTTAAATTACCGTGT
ATCGCTGTAAATCTTACAGATGGCGGCATATAGTGGATATCCGCAAATCGGCGCGGAAA
CAGGGGTAACCAAAATCCACCTCAACGTCCACGTCAACCACGACCGTGCCGACGCGCACC
20 GCCTGTATTTCAAAAACGGTTTTGAAATCTGCGCATACCACTTCCGTTGCGACCCCAAAT
GAAAACCCCCCTCCCATCTGCACCTGTGCGCACTCGCCGCTGCACCTTTCCGGACA
AGGCGGCAGCAGGGTTTACGGCGAAATCAAAGCCCGAGACCTTTGCGTTACCGCTCCTAT
CCTGCTTTCTGCTTCTGTCTTGCCTGCTCTCGTTGAGCCAAGCGTTCTTGAAGCTCGC
TTGCACGTTGGCAAGCATTGCACTCTATCCGCTTTCTTTTCTGTTGCGGCTGGTGGTTC
25 AGGCTCGCGTTGTACGCTTTGCACTAAAGCGCACCGTGAATCGATGCTCGCTATTTATTC
TATCAATATTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 754>:

GNMNN48TR gnm_754

30 TTGGGAAGTTGTCCGTGTCGGACACGTTTTTGTGTCTGACCGTTATGTAGAAGGGCAAAAA
TGATAATGACGCCCCCGTTGCGTTTTGGAGAAGAGGTAAAGGCAGAAAGCATATGCCGT
CTGAATGATATTTAGACGGCATTATATATTGCGGCGGCACTCAGTCCGTGTCGCTTTCA
GGCAACTCTGCCGAACCATGCGTTTGTAGCACGATATTGGTTTTGTTGCGGAGCCGTTTG
CTTTTCGGATGGTGGCGTAGTAGAGCGGGGCGGGACGCGCGCCGTAGTTTTGCCGCC
35 GTTCAAAAAGCCAATTCGGGCCACCCCGGCGCGCCTATGGGTATGGCGGAAATGGCGGAA
ACATTGTGGACGAAATTCCTCAATCACAACCCCGCCAACCCCAAATCTACAACCGCGAC
CGCTTCGTCCTCTCCAACGGCCACGCGTCTATGCTGTTGTACAGCCTGCTGCACCTGACC
GGCTACAACCTAAGCATTGAAGACTTGAAAAACTTCCGCCAACTGCACAGCAAAACCCCC
GGCCATCCCGAATACGGCTACACCGACGGCGTGGAAACACGACCGGCCCGTTGGGGCAA
40 GGGATTGCCAACGCGGTGGGTATGGCATTGGCAGAAAAAATCCTTGCCGCCGAATTTAAT
AAAGACGGTTTGAACATCGTCGATCATTACACCTACGTCTTTATGGGCGACGGCTGTCTG
ATGGAAGGCGTATCGCACGAAGCCTGTTGCTCGCCGGCAACTTGGGCTTGGGCAAACCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 755>:

GNMNNQ41TR gnm_755

45 AAAAGCGGGAGCTCCACCGCGGTGGCGGCCGCTCTAGAACTAGTGGATCCCCCGGGCTGC

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AGGAATTCGGCAGGAGAAGGGACTTATTACATTGGTACAGACATATTTATGCTTTCTTCC
ATCACCACCAACTAAACCCCTTTGGAGGAATGAAATAACTGCATAAACTAGTCAACTGAA
CACTGGGCCACTTACCTCAATGTTATACAAAGTCCTGGATGATTTGATTCTGAACCACAG
5 CTTTTGCAGGAGTTGGGGGAATCAGATTTGCTCATGAAGACATCCCTTTCCACTTTTGTC
ATGGGCAGTAAATACTATAGTTTACAATGCCTACCAATTAGCAAAGGATCATTCAATTCAG
CTACTCAGTTCTCTGTAAAACAGGTCTATGTATGTGCAATTCAGCTAAGATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 756>:

GNMNQ41TF gnm_756

10 TACGACTCACTATAGGGCGAATTGGGTACCGGGCCCCCCTCGAGTTTTTTTTTTTTTTT
TTTTTCTGTATTGAACTTTATTACAAAATTATAAAGCAGAGCTCTGTAACAAAATAAT
ACACATTTGGGTTTGCTTTAACCTCCAAGTAAGTCTGAGAAAATCTTAATAAAAGCCACT
TGAAGTAACAATTCACATCCAAGAGATTCCACAAATTATACAATGTATATTGAGCACT
AGTTCCTGTACAGCTTATTCTTATTAGTTTGGATCCAATTTCCAATGTATTATGAACC
15 AGTCAGCTATCTGTCTTTGAAACAAGTCTTAAGTGAATCTCAGAGTAATCAGCAAAAG
CTACGGAATAATTCTAAGAATTAGATGTTCCATATCATTAAACCAAGGATCCATGAGG
GGCAGAAGGGAGGATTCAAAGATTTAAAAAAATCAAATTTTAGACCTTGGTTAAATATT
AACTGGAATGGGATCTTGAAGTCCCAACTTTAATTTGGTGTATAAAAATG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 757>:

gnm_757

TGTTTCCCTCTTGACAACGGACGTTAGCACCCGCTGTCTGTCTCCCGAGGAACCACTTGA
TGGTATTCTTAGTTTGCCATGGGTTGGTAAGTTGCAATAACCCCTAGCCATAACAGTGC
TTTACCCCATCAGTGTCTTGCTCGAGGCACTACCTAAATAGTTTTGGGGAGAACCAGCT
25 ATCTCCGAGTTTGTTTAGCCTTTCACCCCTATCCACAGCTCATCCCGCATTTTGCAACA
TGCGTGGGTTCCGTCCTCCAGTACCTGTACGGCACCTTCAACCTGGCCATGGATAGATC
ACTCGGTTTCGGGTCTACACCCAGCAACTCATCGCCCTATTAAGACTCGGTTCCCTACG
CCTCCCTATTTCGGTTAAGCTCGCT

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 758>:

GNMNR06TF gnm_758

GCTCGGCTCATGGAACGAAATACATCGTATCTGCACTCAAATATCGCCCCGATTCTTTT
GCCTCGATGGTTCGGTCAGGAGGCATTGTCCGCTACACTCAAAGCTCCATCGTACAGCAA
AAGACAGCTCACGCCTATCTCTTTGTGGCCCGCGTGGGGTGGGAAAGACCTCTTGTCGA
35 CGCATCTTCGCCCCTGCCATCAACTGTCTGGAGCGGTTGCCGGATGGAGAAGCTTGTGGG
CGATGCGAGTCGTGCAAGGCTTTCGATGAGCAGCGATCCATGAATATATATGAAGTGGAT
GCCGCTTCGAACAATTCGGTAGATGATATTCTGTCTCTTGATAGAGCAGGCCAATGTGCCG
CCACAGATCGGGAAATACAAGGTCTACATCATCTACAAGGTACAATGTCT

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 759>:

GNMNR07TF gnm_759

GAATCAATGGAGAAAGTTTGATCCGATGAGATAACGGTCGTCCAATCGAAAAGTCTGAGC
CTTTCATAAATTCATCTGTCTGCTTCGCATGGAAAGTTATTACAGGTTTCAATATGCGC

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AGTGCTGTACGCAACCGGAGATTAGCAAGATAGAGCATCCTCTTATCTCCTCGAAAAGT
 ACCATACGCCGGCCGACGGTTACCTCCTCAGCACCCAAGGCTGTTAGTTCGGCAGCCAAG
 ACATCCTCCAACCCATAAAGGGTCTTAGCTACCATAGTAAATTGGAGATCGTTATTCTA
 ATAGTCCATGATTATGGAACAAAGATAATGAAATACGGCCGAGTTTATGGCTTTTTGAG
 5 ACCTGTACGGAAGTGTGTAGATTCCAGCTATCAAGGCTCGCATTCAGCCACTAACGTAC
 ATCTAAAGCTCATGATGCTACGCTCGGTTATCAAACAAGTACGAATCCATATATCAGAGA
 TTCAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 760>:

10 **GNMNR12TF gnm_760**

GTACTGCTTATAGAGATGGCTTCCTGTTTTCGTATAGCCCCTTGGATGGCAACGATACGG
 TCTTTAATGCTTCTCTGCTTGGAGCGCGTCTCTTGAGCTATTGCTACCATTATACCAAAG
 ACGAAGCGTATCGCACGCTTGGCGGCCAAACGATCTCAGCTTGCTGTGCTGCACAAGCCG
 AAGATGGTTCGTGGGTCTATGGGATGCTACCCGTGCAGTCATGGATTGATAGCTTCCATA
 15 CCGGCTACAATTTGGATGCACTGATTGCCTATCAAGAGCTAACGGGACATTTCCTTTG
 CCGAGAATATAGAGCGTGGGTGTGCTATTACTTAGAGCATTTCTTCGAGGCAGATGGTA
 TGCCCAAGTATTATCAGATCGTACTTATCCAATCGACATTCATTGTCTGGTCAGCTCT
 TCGTGTGCTAGCTAGACTTCATCG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 761>:

GNMNR14TF gnm_761

GGAGCGGGCGCAGTTCCCTCCCTGCGCTGGACGAAAATAGCATGAACAACCTCTCGGAAAA
 CAGCCTGAACGAAGAGAGTCGATTGCTTTGGGACGGCTCTTCGGATTGGGCAGAGGCACT
 GACCAAGAGGATCCGCCATCAGGATCGCTTCCCTATCTGATGCTTCGTTTTATCGAGGA
 25 GATGGATCTGCTCAAGGGTATACGCTTTCGTGTCGATTGTTGGGTGAAATCGAGCTGGATTC
 TTACTCCAAAAAGGTAGGCCGGAATGGTGAGTACGATCGCACGATAACGGATCATGCCTT
 GGCATTCGGCAAGCTGTCAGACTTCCAGAAATGAAGAAGAGGTAAGTAAGATGATCAGTGG
 AGAAGCGTCTTATCCCGTACGCTTCTCTCTTTGCTCCCCGCTATGCCATATACGACAA
 TAAGATAGG

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 762>:

GNMNR20TF gnm_762

GAAATACAGCCTTTTCGTTTTACCGGTCAAAATAAAATCTTCTGAATACTGTCCCATA
 ATCATATTTGTTAATGGTCAAATATAATGAAAGAATGTTTTGAAAACCAATATGAACTGT
 35 TGCATGGGAGTTTCATTGAGCTCTTTTGCTGCAGAGCAGATTCTTAGTGTCTTCGGGAAA
 GGTCAAACCTCCGGTATATGGGCACACCAAGCAAACAGAAATTTCCCAAGTTTCATTA
 GAGAAGTACTCCTTTTCCTCGTCAAATAGGCGAGAAATAAGAAACGATTGTCAGCTGATTC
 TTGCTTCTGTCATGATGCAGGACGCGATTGTCAGCTGATTCTTGCTTCTGACGATGCA
 AGACGCGATTGTCAGTTGATTCTTGCTTCTGACGATGCAAGACGCGATTGTCAGCTGA
 40 TTCTTGCTTCTGACGATGCAAGACGCGATTGTCAGCTGATTCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 763>:

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gnm_763

ATTCCAGAGTACTTAACTACGGTTTTAAATGTACCTTTTTATTTGGGTGGCACGTCTTG
TTGATTCTAGTTGTTGTAACGATGGATTTTAGTACACAAATAAATTCGTATAGGCTTACT
CAACAGTATGATAAGTTAATGACTCGTTCAGAAATGAAATCATTTTCTCGGAAATAGAAT
5 TATGGCGAAAGAAGATACTATCCAAATGCAAGGTGAAATCTTGAACTTTACCTAATGC
AACATTTAAAGTAAACTTGAGAATGACCATATTGTATTGGGTGATATTTCTGGGAAGAT
GCGGATGCATTACATTCTGATTTTCTCCGGGAGATAAGGTCACAGTAGAGCTGACACCTTA
TGATCTAACTAGGGCTCGAATCGTTTTTCAGAGCAAGATAAACCAATAAAAGGAAAAATAA
ATGCGTGTACAACCATCTGTTAAGAAAATTTGCCGAAATTGCAAGATTATTCGTGCAAAAT
10 CGTGTAGTTTCGTGTAATTTGTACTGATCTCGGTACAAACAGCGTCAAGGTTAATGGAAT
ATTTCTTGTAATGTGATTCTGTGATATAGTGACACACTTTGCCCTAAAAAGGAAAAATA
TGGCTCGTATTGCAGGGGTAAATATCCCTAATAACGCACACATCGTAATTGGTCTTCAGG
CTATTTACGGTATTGGTGCTACTCGTGCTAAATTGATTTGTGAGGCTGCAAAATATTGCCG
CTGATACTAAAGCCCAACATCTTTTGAGCAACAGAGCCCGTTGATAGCCACAGCTGTGTA
15 TGGTTAAATCTGCCCAGAATCAGAAAGAAGAGCGTACATTTTGGAGAGCAGTCGACCT
CTAAGATTTTCAGGAAGACGTTTTGTTATTGTTTCGCAAAACTTCTAACAAATGGACAC
TCCACATAATATGTCAACGTGTTCCCATTTGATTCAAATTAATAGGGTACAGTTTGGA
GAATAGGCCTATTTGAATAAAAAGTATGCTCCTTAGATTGGGATTGTGTGTCCTCCGGG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 764>:

GNMNS04TF gnm_764

ACACTGATGTTACCGGGCATCTTGCTCCAGTTATAGGTCTCACCGAATGTGCCTGAATAG
TGGGTATGCGTCCCGTCATATCATCGTAGTAGTCATATTCGCCGGAAGCCTTCTCCGGC
CACTTGTAGTGACGCATGATTTGTCCCATGGCAGTGGCAACACAACCGGTATAAGCCTGC
25 TGCCCGGAAGGAAGCAGGGGATGCAAGGTGTTAAATGGATAGCCCTGATCCCAAGATC
GGATCCGATGCATGTTCCGCCGTTTCCAAAATAGGGGCAATGGATGATGGCAGGTCCCGT
GTAGGCTTGGCTTCACGGATAGGATCTATCGGCTCTGCCTTGCCGTCCATTACAGCAGGC
ATTTACGTTTCATAACCTTTGTGCCACCTCTGATATTGTCCGGTATACGGGCCG

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 765>:

GNMNS06TF gnm_765

GAAAAGAGAGCTTCATGCGATCTCTCTGCAACCTCAAGTAATCTGAAAACACTTAAGA
ATCAGCTCTGCGGCAAAAGACTTCAATGAAAGTCTATAAAATAGTTGCAAAATAGCTGAT
AGTTAGCGCATTGATGGGAGCAGAATCAGCTGACAATCGCGTCTGCATCGTGCAGGGAG
35 CAAGAATCAGCTGACAATCGCGTCTGCATCGTGCAGGGAGCAAGAATCAGCCGACAATC
GCGTCTGCATCGTGCAGGGAGCAAGAATCAGCTGACAATCGCGTCTGCATCGTGCAGG
GAGCAAGAATCAGCTGACAATCGCGTCTGCATCGTGCAGGGAGCAAGAATCAGCTGACA
ATCGCGTCTGCATCGTGCAGGAAGCAAGAATCAGCTGACAATCGCGTCTGTATCGTGC
AGGAAGCAAGAATCAGTTGACAATCGCGTCT

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 766>:

GNMNS08TF gnm_766

CACTTTCACCTTATACATACCCCGTTAAATAAGTTAAGAGGGAAATATGAAAAGTGTAGTA
ACAAAGCAGGCCCTCATCGGCCGTCTTTCTTTAGTATAAGTATATACTCCCATGCGGCC
45 AACCTCCGGCCCAACCTACCGACACCATCGTATCCGGCAATATCGCACTTGAGGATATA

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GTGGTGACCGGTAGCCGTACAGCCGCTCTGCTTAAAGATGTACCTGTCCCCACAAAGGTG
TTCAAGGCCAAAGATATCAAAGCTATAGCCCCATCTTCTTTTCATTGACGTACTGCAGTAT
ATTCTTCCCGGGATCGAGTTTACCAAGCATGGTTCCAGAGATCAGCTCAATGCTCAGGGA
TTTGACGAAAGTTCTATTCTCTCCTCGTCGATGGCGAATTGATTTCAACGGGATCTACC
5 AGTGGAATAGACTTCGAACGAATCAATCCGGATGACATCGAGCGAATCGAAGTGCTTCGT
GGAGCTTCCTCTGCTTTGTACGGATCTAATGCCATCGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 767>:

GNMNS13TF gnm_767

10 GAATGGAGCAAATGAAAAAGCGATTCTCTGGCAATGTCCAAATGCATCTCAATTTGGACG
AATGCAGGAATGAGTTACTTGTACCTGTTTTAAGTGCTGAGATACAAATGCAGGTTAAAG
AGCTGTTTGAATTATCCATGCAAAAGTCGACAGAGGGAATATCCCTCTACTCCTCTGCTG
AGAGCTATCTATTGGCGTGCTTAGGGATGCAAGACTTTGTAGCCAATATAGATGCTTACA
ACGTAAGACACTCAAAGAGAGCTTCCTTGAAGTGGACGCATTGATGCAGAGTATTATT
15 TGCCTAAGTATGAGGATTACATCAATGCAGTATCGGCATACACTGGCGGTGTCGCTCCTC
TTGGTGAGGTCTGCACCATTAAGACAGCAACTATACGCCAGAATGTGATATGAAGTATC
GCTACATTGAGTTGGCTAATATTGGCAAGTCGGGCGACATTACAGGCTGTTTGTACGAAA
ATGGTGAAGACCTGCCCACACGTGCAAGGCGTATCGTAACCCAAGGCGATGTTATTGTTT
CATCTATAGAGGGGTCTTTGA

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 768>:

GNMNS15TF gnm_768

ATCGAGTGGTTGCAGGTGGAATACACGTTTCGCCTCTGTTCCGAATGGATTGCAGGTTG
TCCCTGATGGTGTTTTGGTTGCTGTTTCATGACGGGGTACGTCCTTTGGTCAGTGCTGAAA
25 CTATCGATGCCTGTTTCGATCTTGCAGAGTTGAAGGGGGCTGTCGCTCCTTGTCGCCCTA
TGACCGAATCGCTTCGCTATTATGCCACTGATGGCAATTATGCAGTGGACAGGAGTCGGT
ACGTCACGGTACAACTCCACAGACCTTTCGGAGCGAATGGCTTCGAGAGGCCTATCGGC
AACCCATGAAGAGTATTTTACCGATGATTGTTTCGGTATATGAACACCATTTTGGCCGAC
CGGTGGCATTGATTGTCGGTAATATCGAAATATCAAATTGACTACTCCTCTCGATCTAT
30 CCCTTGCCAAACTGTTATTGACATCCTAATACCTAAAAACATAAGTTACATCTCCACAT
TGTGGAAGAATACAAGACAACTTAATCGAAGACCTCGAAAAGGGCTAGGGCAACTAACG
CCATGCCAAGTTTTAGAACTAAGTACTACTCAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 769>:

GNMNS17TF gnm_769

GGCGTTTCATCATCTCATGTGCCCTCGATGTAAGCACAGTGTATATACCACCCTGCTTAT
TGCAAACCTCCCAGCTCGTCTCCAGCAAGAGGGAAGGGTTGGGGCGAAAATCATTCAATC
GATCGCAATTTCGTTTGGGAAAGTTTTTCCGGTCTTATCCTCCGACCAACCGCCATACAA
AGGCCACGGCTACGGTCACAACGAAACCTGTGGCAAGCGGAATCAAGGCTGCCAGCAGCG
40 TCCATTTCCGGCTCCCGTCTCTTTATATATGTTAAACAGGGTGGTGCTGCAAGGATTGT
GGAGTAGGCAGAACAGCATGAGATTGATACCTGTCAGCATAGTCCAACCGCCGGCTTCGA
ACAGTCGTGCCGTTTTCGGCTGTGCCATCGGCTTCGAACATGACGCCGGCACCAGGTTCCCTC
CATCTATTTCCCGTAGTCAGGACAGTCAGCATCAGTATCGTCGGTATCACTATTTCAATTGG
CCGGAATGGCCAATACATAGGCCAGCAGAATGACACCGTTGAGTCCCATCAGCCAACCGG
45 GTCCGTCCAGCAGGTCGATCAGATATTCGGCTATCCCGACTCCACCGATTTGGATGTTGC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 770>:

GNMNS19TF gnm_770

5 GACGGACGTATCATTTTCATAGGCCCCCTGCTAACGGAGCAGGAAGACTTACCCACCGAT
TTTGAGAATACAGTCCCTGCCATCTTGGAGGACTGGCATCGTGATGCAGCACCCCTCGCTG
GACTTGCGATATGTGTGCGGCAGCTGGCGAACTCCCGTTCTCCCCCTGTAGTACTGGTG
GACTTCGAACCCCTCCATGCACAGAAAGCAACGCTCTACTATGAGATGTGGGAGCACTTC
GGCATCCAAAGCGACAAGGGGTACGGCGACTATGACGAGGCCTCGCTCTTCGGCATTGCC
10 GCAGCCCAAACGATGCATAGCCTGTGTGAATACCTCTGCCCCGAAGACCAACCGGCCATA
GGTATATTCAACGAATGGATGCTCGGCATGGGACTCCTCTACAGCAAGCGGAAACACCT
CGTCTGAAAACCCCTTTTCCTCACACATGCCACCACAGGGCGGTCTATCGCCGGCAAT
AACAAAGCTCTGTATGCCTACATGCCGGGCTACAACGGCGATCAAATGGCTGCCGAACTC
GGTGTAGAAGCCAAACACGGGATAGAAAAAGCGGGCTCACCAATCGGACACC

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 771>:

GNMNS23TF gnm_771

GACTTCACGGTTGTTTTGAAGAAACGCCTAACGGAATAAATAAGGGCGGAGCAAGATTC
GGTCTTTCCACGGAAGCCAATGGCGCCAAACCTCAAAGTGTATGGATCGAGCGTACGGTA
GATTTGCCTGCAGGCACGAAGTATGTTGCTTTCCGTCCTACAATTGCTCGGATTTGAAC
20 TACATTCTTTGGATGATATTCAAGTTCACCATGGGTGGCAGCCCCACCCGACCGATTAT
ACCTACACGGTGTATCGTGATGGTACGAAGATCAAGGAAGGTTTGACCGAAACGACCTTC
GAAGAAGACGGCGTAGCTACGGGCAATCATGAGTATTGCGTGGAAGTGAAGTACACAGCC
GGCGTATCTCCGAAGAAATGTGTAAACGTAACCTGTTAATTCGACACAGTTCAATCCTGTA
CAGAACCTGACGGCAGAACAAAGCTCCTAACAGCATGGATGCAATCCTTAAATGGAATGCA
25 CCGGCATCTAAACGTGCGGAAGTTCTGAACGAAGACTTCGAAAATGGTATTCTCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 772>:

GNMNS25TF gnm_772

30 GGCCGATAGATTCTGCGGATGAATAAGACCGAGTGCCTTTTCGCGAATTTGCGGTAATGC
CCATTCCCAGAAATTCACCGGCACCATTTTCGGCCATGTACAGCGGCATCCATCGATTCC
TTTGCTTGCCCCAAAAGAGCAGAATATCTCGCATCCGAATCCACGTGTCCGGTAGAGGATC
GAAGTGTTTGCTTCCCTCCATTCAGGTACACGATGCCGTACTTCAATTTACCGTTTCGTA
CCAATCCTCCTTATCGAT

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 773>:

GNMNS28TF gnm_773

40 GAGTAAGAACAACCGGTCGAGTAGCTGCTGCCCACTATCCGGGCGGCTAAAAAGCAGATC
GGTCAGTTTCATCGCCCCAAAGTCTTTCCTCCGGTACGTAGTACTGCTTGGGTACCTCCCT
ATCCAGAGGAGATCACGCGAATGATCTGTCAATAAGGGAGTGAGAAGAACACTATTGAG
CAAGTCAAGAACAGCATCTGTCCGAAAATGAGGAACTTTTTGAATAAGACGGATTTCTGC
CTGTACCCTGATCCACTTCTCGACAAAAATGGAAATGGCACTTTGAGAGAGAGGGATAGC
CCATAGTCACATTGATACGTCTACAGTCTCGGCCAGACTGTTCAATACGGGCATCAACA
TTCCTGTATCGGGAAGAATGATAGCTGTTTCTATTCCTTCTTTGGTCAGAATAGCCTTCA

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GGGTATAACTCCTCGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 774>:

GNMNS30TF gnm_774

5 CACTTTC AATACTCAATTCATTCTGGCCTGGCTGTTGATCTTTTGGGTATTGTCCTGTT
TGGACGGTTGGGGCTGCTGCTGTCCGCCCTGGTTATTGTTATTCGGATTGTTTGGCCGTT
GTTTTTGTGCTGATTACTCTCCTTATTCTGATCCTGATTGTCTCCTCCTCCTTGCTGTT
GCTGTTTCTGAAGCAACTTCATGGTCAAAGCCAGATTGTAACGAGTCTCTTCATCGGTGCG
10 GGTGATTTCGGAGCGAATGCTTATAGGCCTCCACACTCTGCCGATAGTCTTCTTTTCA
TAAAGGAGTTGCCGAGATTGTGCATCAGTTCGGCTCTACGCTTAGGTGTCAATGTCCGGT
CTTGTAAGAGCAGCATAGTTTGGAGAGCTTCATCGGTGCGGCCTTGTGCATCTGTG
TACCGGCCAAACCGAATCGTGCCTCGGTGAAAGTACTGTCCTTGGAGAGAGCTTTCGCGAT
ATCGGACCTCGGCATTGGCATATTGATGGCGTCGATATACT

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 775>:

GNMNS34TF gnm_775

GGGACTGCTTTCCGACTTGAAAAAGAAAGCAAAGAGGATGGCGATGACCAATGCATAAGC
TGCGAAAATATACCATACCGTGCTCCAAGCCGTATGACCGGCATCCGTAAAGCGATCTAC
CACCCAACCGCTGGCAATCCGCCGATGATAGCTCCGATACCATTGGTCATTATCATAAA
20 AAGGCCTTGAGCAGCTGCCCCGAATCGATGGTGTAGTCTCTCGATCGACAAACATGGAACC
GCTGATATTGAAGAAATCGAAGGCCATACCATATACGATCATCGACAGAACGAGGAAAAT
GAAGCCGCTACCCGGATTGCCGAGACCAAAGAAAGCGAAACGCAACACCCAAGCCAACAT
ACTCATAAGCATCACCCGTTTGATCCCGAAGCGCCCCATGAAAAACGGAATGGTCAAAAT
GAAAAGAGTCTCGGAAATCTGCGACAAAGAAAGCAACACATTGGGGTGCTGAACGGCAAA
25 GCTCTCGCTATAAGCATCCGCAAAATGAGACAAAACGGATTGCCGAATGTATTGGTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 776>:

GNMNS37TF gnm_776

GTCTGCGGCAGGTATGCCAACAGGATTGCCCGCGGTTCTTTCTCCATAGACGGCAGATGC
30 TACAGCCTGCCGATCAACAATGGGCCGAACTCTCTGCATGGCGGCATCAGCGGATTTAAT
ACGAAGGTCTGGGAGGTGAAATCCGCCGCCCCCTCTTCGCTTGTGCTGGAATACGTGTGCG
GCAGATGGAGAGGAGGGGTATCCGGGCGAGCTGGTCGTTCCGATCATTTACAGCGTCACG
GATGAGGGGCGCATTGCACATAGACTATCGTGCTACTGCGGATGCTCCTACGGTTCTGAAT
CTGACCAATCACTCCTATTTCAATCTCTCGGGTGCAGGCGATCCCTCCGTGCATGATCAT
35 ACCCTCATGATACAAGCCCGGCATTATCTCCCCACAGACGATACGGCCATCCCTTACGGC
GAGCCTGCCGAGGTGAGGGGACGCCGTTCGATTTCCTCACGCCTCACGGCATAGGGGAT
CGGATCGACAGTGGCATGGATCAGCTCATTTGGGCAAAGGGATA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 777>:

GNMNS39TF gnm_777

CTCTCCTATCGTCAGTCCATGAAGAATAGGCAGCGGATCCACTCCGACAAACGAACGGCA
ATCATCTTGTAAGATGGGACCATCCACGTAGTCGTTTCGGGTTTCGGCCGATCAGTAACGAT
CAGCTTTTTCTGCTCCTCGGCACAAGCCTCCATCACATAGTGCAGCGTACTGATATAAGT

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AAAGAAGCGAGTCCCGACATCCTGCATATCGAATAGCAGCACATCGACGTCGGCCAAACAT
TCGAGGAGTAGGTTTCTTGTGTTTTGCCGTAGAGCGAAACGATAGGGATTCCCGTCCTGAC
ATCCCGTTCATCCTTGACCGTTGCCCCGGCATCGGCATCTCCACGGCAGACGTGTTTCAGG
ACCTAGGATCTTGACAGACATTGCATCACTGCCGAGGCA

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 778>:

gnm_778

CCCCCGCTTTCTCTACATAAAATTACATTTTGCCGATATTTGCCGAATTGTCTGAAAAT
ATGTGTAATAAGGGGCGTATAATCAAAACATTTGCCCCGATTGCCATGCCTTATTTGCG
10 CCTGTTTGACGATGCCGTAAGCGGCCGCGCAAAACGCTATCAAAATCATGTGAAAGCCG
TTTTTTCCGTCCCGAAGAACTCGATGCTTTGGACGGCGCGCTGCAATCGGGCTGGCAAAA
AGGGCTGCATTCCGGTGTGTTTGACAGACTACGGATTCCGGTTTGCCGCTGACGGGGGTGA
GTCCGAACGCGCGGCAATCTTGCCCTGCACTGGTTTGCCAACTGCGCCGACATCGATGC
CGAAAGCyGGCTTGCCCGACACTCAGATAGCCTCATGCGTGGGCCATCGACATGCATGAG
15 TTAAGCGTATCGCTAGCGTTCATCTGAGCCAGGATCAAACCTCTCCACTGTCATATTTGT
GTTTGTGTTGCTTCTGTTTTCTCGCTCAGACGCCGATTATTACCCTTTGGATAATTCGAT
TTATCAGGTAGTACACCTCGGTTTCTTTTCTCTCTCGGTCTTTTCGTTTTCTCTTTG
ACAAAG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 779>:

GNMNS42TF gnm_779

GCTGGTTCAGGCTCTCGCCATTGACCAATATTCCTCACTGCTGCCTCCCGTAGGAGTCT
GGTCCGTGTCTCAGTACCAGTGTGGGGGATAAACCTCTCAGTTCCCCTACCCATCGTCGC
25 CTTGGTGAGCCGTTACCTCACCAACAAGCTAATGGGACGCATGCCTATCTTACAGCTATA
AATATTTCTTGTAAATATCATGCAATAATATAAGTGTATGCGGTTTTAGTCCGTCTTTCA
GCCGGTTATCCCCCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 780>:

GNMNS49TF gnm_780

GCCGACTGCCACGGTGCCGGCTGTGCGGTGACGATCGGCCGGGCCGAAGTCGGGATGCCA
30 GTCGGCTTCGTGTATCTTCTCTGCCATGCCTTCGAACTCGCCTTTGCGGATCTTGCCAG
GTTTTACGGTGGGAGCGGTAGCCGATTTCTCATAGAGGAATACGGGCACGCCGTACTT
CTCGCCTATCGTGCGGCCTACCTCCTTGCGGAGGGTGTGCGGCTCTTCGGCAGTCACATT
CTTGATGGGGATAAAGGGGATCAGTCCACTGCGCCCATACGGnGGTGCTGACCCGTGTG
35 TTTGGTCAGGTCGATCAGCTCTACGGCTATGCCAACGGCTTCGAGCACTGCCTCCCGAAG
GGGCTCGGGTTCGCCCCACTACGGTCACGACGAGACGGTTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 781>:

GNMNS51TF gnm_781

CCCTTCGTGAGGAAAAGACCGGTGGATTCCACTACGTATTCCACTCCGACTTGATCCCAT
40 TTCAGATCGGCAGGGTTCTTCTCAGCTGTAACCTCGAATGGCTTTCCCGTTTACTATCAGC
TGACCATCTTTGACTTCGACTGTCCCATTTGAAACGACCGTGTACACTGTGCTACTTGAGC
ATGTACGCCATATATCCACATCGATCAGGTCGTTGATGGCTACAATTTCAATGTCGCTT

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CTGTTTTGTGTTTGTGCTGCGCGGAATACCAAGCGGCCGATACGGCCAAAGCCGTTAATA
CCTACTTTCGTCATAACTAAGTGCTTATATTTAATGTTAACCATTATTGTTTTGTCCGG
AATACTTTGCTTTTCCCCCGAAAAGGATCCGCAGAGATTCTCCCGATAGACAGCGTTC
CAATGACCTTGCT

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 782>:

GNMNS53TF gnm_782

TAAATGGATGACCCGGCTTTTTTGTTCGGTGTTGATTTCTCATCGGTTTCAAACAAGA
AGAAAGAGTCCGACTCTCTATTTACTTGATGGATTAGAGAAAAATCAGAGAAGGCCTT
10 CGTCAGCGAAACTGAAATATGCCCCATCGTCACCGATGATCAGATGGTCGTTCAAGTCGAA
ATCCGAGCAATGTGGCAGCCTTTTGACCCCTTTGAGTAAGCTGAATATCCTGTTCACTTG
GGCGTACCGTTCTGAAGGATGATTGTGTGCCAGAATGATTGCCGAGGCAAGATGAGAGA
CGGCTTTGTGCATGATCAGACGGACATCGGnCGAAGTCTCCGATACACCTCCTCGGCTAA
AGGTTCTCATGCTG

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 783>:

GNMNS55TF gnm_783

GTACTTCGAAGAAGCATCCGGCGGCACGATCTTTCTGGACGAAGTGGGCGAACTGCCTTT
GCCACGCAGGCGAGGCTGCTGAGGGTGCTGGAGACGGGCGAGTTTCATCCCCGTAGGAGC
20 CAGCCAGTCGCAGAAGACGGATGTCCGTATCGTAGCGGCGACGAATGTGAACCTCAAGGA
GGCGGTAGCGAACGGGAAGTTCCGGGAAGACCTCTTCTCCGGCTCAATACGGTACCGAT
CGAGGTGCCTGCGTGCGTATGCGACCGGACGACGTGCCCTTGCTTTTTCGCCGATTGCG
CGCCGACAGCGCCGAGAAGTATCGGATGCCTCTGCTGCGCCTATCGGACGAAGCCGTACC
ATATTAATGCGTTACCGCTGGCCCGGCAATGTGCGACAGCTGC

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 784>:

GNMNS57TF gnm_784

GCCATTGTGGACGAACTCTACCGGCTTGCCGGTATCTATAATACCTGTATTATCTGTGTA
CTCCATTTTGTCCCGAACGGGATTAACTGCGTGGGCATATCGGTTCCGGAACCTCAGCGC
30 AAGTCGGCGGCCATCCTCTCCATAGAGAAAGATGAGAATCCGGCTTTGTCGGTCGTAAAA
GCACTTAAAGTAAGGGATGGAAGCCCGTTGGATGTACCTTTGATGCTGTTCCGATGGGAC
AGGGAAAAGGAAATGCACGTTTACCGGGGAGAGAAATCTCCGGAAGACAnAGAAAAACGG
AACTTACGGAATTGGGACAAATCGCAnAAGAAGTCTTTCACGCnCAAGAGCATTTATCT
TACAACGAACTGGTCGAAAGAATCATGCAnACGGTCGACGTCAAAGACCGTACGGCCAAG
35 AGTTATATCAGTTATATGCGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 785>:

GNMNS59TF gnm_785

CGTGCAATATGTGTCGAGAACGGCTTGCGTCATACCCCGAACGATACAGCATTCTTGAA
40 GTCGCATATAATCTGAAGAAGATATTCACGCCGGACGACTTGTTGATCTCACTCGCGAG
AATGGCTTGCTGTAAGTCTTTCTACGGTCTATAATACCCTTACCTTGCTCGAACGCTGC
GGGATCGTTCTGCGTTTGCTTTCTCCGAAACCAAATATCAGTACTTGATGGCTTCATT
GCAGAGCAGTGTCGCTGCTTTTCTGTACCGAATGTGCACAATTTTCTACCTACTACCGA

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CGAAATGTGAAGTCGATACTGGCCGACAAGGATCTCAGACCACCACGCTTCTCTTATAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 786>:

GNMNS63TF gnm_786

5 GCACACCTCCTGCGCGATAAGCCTTGATTATCGCCTGACGGATTTTCCGGATCGAACG
ACTGCACATGACCATCACGCTTACGATGCGAAGGATTACCTCTCCATTGTAATACGTT
ATTGTAAAAAATACTTCCCTGAGATCTATTCTCTTAGTGCCGGGAGACTCCTTCCCTCG
AGGTCTTCTCTCCATACTTTATAGGCAACTCGTAGAGGCAGGTATTCTGGCTTACTTCAT
10 CTCTTTTCTGTTTGTGCGCCTTCCCATTACGCTCCACCTCTAATAGTGGAGAATGAACA
GTGGCATCATTTGGAAAGCGACAAGAGTCCGCATGTCAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 787>:

GNMNS65TF gnm_787

15 GTAGGCAGGGGGATCCCCCTCAAATCCCCAAAAGTCTTGATTGGAGCGACTCAGCTCTCA
TACTAAAAAATCCCCCTCTAAGCAAACATTTAGGACACTATTGATTTGATAGCGGTTTT
TCTATACAAACGATGATCCCGCCCCCTGCTTGAACTGAATTTGACACACCTCTTCT
GGTAGTTGGGGTTAATTTAGGCCTTGCGTTTTTTTCTGCGGAAAGGTTGCCGTCTTAAC
CATAAAGAGATGAGACTTTATTGAAAGAGCATATCGGACGAGATCGGCTTGAACTTTTCT
20 TCTCCCTTGAGCCGTATCATTACCCTGCTGTAGTTCCAATAAGTAnGCCAGCCACCTGT
ATGGCTCCGACCCAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 788>:

GNMNS71TF gnm_788

25 GTATGGTTTGAGTGACTACGAGGTTGAGGAGTGCATCAACGACTCCTTGCTTTTCAGTGA
ATTCTTTGGCTTGGACCTCGGCTTCCCTTCCCCCGACCATAGCACGATCAGTCGTTTCCG
TAGTGAACCTCACTCGCTTGGGGATTATGGATAAACTCCTTCGGGAGCTGAACAAGCAGTT
CAAGAAGCACGGCATCAGCCGTATCGATCAAGGCGCCATCGTTGATGCGAGCATTGTGGA
TAGTCCTTACGCCCCCTGATGGCAACGTGGTCATAGAAGTGGCTGAAGATCGAGAGGATAC
30 TCGTTTCGGAGGAAGCTCGTACACAGCCAGGAGGCTTATCATTGTGAACTCAAGAGTGGCA
AACCAGGAGTAGACTCGGAGGCTCGTTGGGTACGCAAAGGCAGGCACTATCGGTATGGAT
ACAAGAAGCACGTCTTGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 789>:

GNMNS73TF gnm_789

35 GTTTTGAATATAATATCGAAGTTCGGGACAGAATAGTCCGTTTTACCTTCCTGTATCGG
CATAGCATCCATCTCTCTCACCCGATCGATACGTACATCGAGGACTGCAAGAGTAGCAA
ATTGCTGAATACTTCACTTATGGGATTATATATGCTCGATCCGATAAGCAGAAAGACTAA
ATAAGTGAATAGATCAATTGTTCTTCTGACAAGAGATAAGCTCCCATTATGATTACAGA
40 GGCAAGTCCCAGTTTGAGGATTATATGTGAAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 790>:

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GNMNS77TF gnm_790

GCTCACAGCTCTATGAGATGGAGCTACAGCGCCGACGAGCTGCAGAGGCCAAAGTGGAGG
CCGGCAAGAAAAAGATAGAGTGGGGATCGCAGATTCGGAGCTATGTATTCGATGATCGCC
GTGTGAAAGACCATCGTACCAACTATCAGACGAGCAATGTCAATGCCCTTATGGATGGCG
5 ACATAGATGAATTTATCAAGGCTTATCTGATGGAATTTGCCGGTGAAGAGGCGTAATCGA
CTTTCGCTTCTGAAGGAAGGATTTCGTTGATCAAAGGAAATGGGGCAGGCTTGTATTGGC
AGTCGGCCCATTTCTTTTTTGTGGGAAGTCCGGAAATGTCGCCGGTTTATCGGCTCATAT
ACAATTATACGCAGGGTTATTGTATCTCATGTCCTTTCGGGTAGTAGGCACTATATTCTCT
GCTACAGGACGGnGAAATAGCCGACTTT

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 791>:

GNMNS79TF gnm_791

CTCTTCGGATTAGATACGGTTTGTATGCTTCTCGATAAGGAATTGCTTGACTTTGCCTAC
TCTCTTCCCTTCGAATACCGCTACGGAAAGCGTATCTATGATGATAATTTGTCGTGAAGT
15 TATGGCGAGAAAGGCATTTCTTTTTTCGGACGATTTGAACCTGCATGGCATTATCTCTTCT
CCTGTTTACCGACTCAAACGATCTCTAAAGCCTTTGCTTCGACCATTTATACCCCGTCCT
TCGATTTGGAAAGGCGATATTATCGGTTTGAACGGATCATGCAACCTGTATTACGACAG
GTAGAGCAAGACGGACGTTTCCACCCGACATCTATAAATGGGTATCCTTCTGCTGGTAT
CTGCTTCAAACGAnAAATTGATTGACCGCC

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 792>:

GNMNS83TF gnm_792

GCCAAGTTCTTCAGCAGGTCAATGCCTTCGGCAAACCATGACGGGGCATTGAACAAACTG
AAAGGCTTGATCGTGAAGAAATGTCATCGAGTACGGGAACGACTACGCCTGCCACCTTC
25 TTTGCCGAGAGCTTGACACCCTCCACACTGATCAGGTGGGTTTGAATTCGTTCCACAGG
CTTACCATGCTTCGGTAGCCTACGATCTCTTCTTCCAGTTGGCGTTCCAATCGCTCCACC
TCGTCCTTCGTTTCGCTTCACCTCCAGACGCAATGCGCTCTCCTTGCTTTTGATCGTCGGT
AAGGTACGCTCTCGCATCTTAAGCTGCTTT

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 793>:

GNMNS87TF gnm_793

GCTTATGGCAATGCTGCCAAGGAATCATCGACTTGGCCGAACAGGCAAGTGCTAAGATC
GTCGGTATGGGCTTTATCATAGAGAAAGCCTTTCAGAACGGGAGAGAGGCTCTACAGGAA
AGAGGTATAAGAGTGGAGTCGCTCGCATCATCCGAAGCCTTGACAACTGCTGCATAACT
35 ATTGCAGACGAAACGAAGACTAACCATACACATTCCAATACACATCCCGTCCGCTGGC
TCAGTGGGCGGGATGTTGCTTTTTTCCTTCCCTTTTCTCCGAATATAAAGACGTGCCACTT
TTCGTTTCTCATTCCGAAGGCATATTGAGCCCTTTGAAAAAGAGAAGGTCTCTATAATG
CAAGAATCCGAGTACGTGCTACAGATATGGCCGAGCGGCAGTTTAGAGACTGTCTCCTCT
GTCTCAAGATAATAAGTGCCACGCAGGATTTTCGCGTTTAACGGGAGG

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 794>:

GNMNS89TF gnm_794

5 CCACTTTTTCCGTAAGGACAGTATCGTACGTTTCCACCGCTCGGCTTTCCGCCTGTCCCT
GCCGGTGATCGGCGGCATAACGGCTATAGGGGTAGCACCTTTCGCCATGCACCTTACGG
GCAGTCTGGTCAATATCATCATGAATCGTTCTTTTCGTATCCTACGGCGAGACAGCAGATG
CTACCGACTTGGCCATCGGAGCATTCCGGGATTATCAATGGCTATGCCATGCTCTTTTCA
TGATTATCATCGGTGTGGCTCAGGGGATGCAGCCGATCGTAGGTTTCAACTACGGnGCTA
AAAATCCGGGACGGGTGAAGTCGGCTATCGCTACAGTTGTGGCGTCAATCTACTGGTCA
GCTTTCTCGGTTT

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 795>:

GNMNS91TF gnm_795

15 GCAGATGGCGAACGGATTGTCAGCTTGTATCGCCAGACATGAACAGGCCGAATGGGTG
CTTACAGACGAATTGGCCGATACGGAACGAGGTGCAGGCGGATTGGTCATACGGGCAAA
GAATAATTTTCAATCTCCCTTCAACTACCACAGATGCGGATCCATTCTATCATTCTCCTG
CTGTTTCTTTTAGTTATTTCTCCTGTAGCCGGAAGTATATCCATTACAGACAGTACAGCA
TCTAAGTTCGACCGATATTTCTATGAAGGTGTCCGGCAGCGAGAACAGGAGAATTATGCT
GCAGCTTTCGACATCTTTCGCTATTGCCATCGGTTGAATCCCAACGATGCGGCTCTGTTA
TCGGAGTTGGGAAACTGTATATTGCCAATGGGCGTCAGGAGGAAGGAACCCGGTA

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 796>:

GNMNY45TR gnm_796

25 CGATTATGAGCGCTGTGCGTACGCCTACGCGCCAGCTCTCAAGCCGCCGGACAATTGAAT
GCGACGATAGTTTGGATTCCATCAATGCCACTACCAGCGGATTGTGAAATACGTTTCCC
AGCGTGCGGGCATCGGCATCAATGCCGGACGTATCCGCGGTTTGGACAGCGAAATCCGGG
GCGGCGAAGCGCGGCATACCGGCTGCATTCCCTTCTTAAATGTTTCAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 797>:

GNMNY56TF gnm_797

30 GTCCGCTGATCGAGAACGCGCATGAAAACGGTAGTCTGGATTGTCGTCCTGTTTGCCGCC
GCCGTCGGACTGGCGCTGGCTTCGGGCATTTACACCGGCGACGTGTATATCCTACTCGGA
CAGACCATGCTCAGAATCAACCTGCACGCCTTTGTGTAGGTTTCGCTGATTGCCGTCGTG
GTGTGGTATTTCTGTTTAGATTCAATTATCCGCGTATTCAATATCCCCGAAAAGATGCAG
CGTTTCGGTTCGGCGCGTAAAGGACGCAAGGCCGCCCTTGCCCTGAACAATGCGGGTTTG
GCGTATTTTGAATGGCGTTTTGAAAAAG

35

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 798>:

GNMNZ15TF gnm_798

40 CGCGACTGTTGCATAAGCGCGGAGGCGATGATTTTTTTCATGTGTGTCCTGTTTGGGTG
GAAAATCGGTTTTATTGTATCGCCGTCGGGAATTTTGGCAAGCATTCTGCCGGCAAATCG
TGATGTTTACAGGGGACAGGTGTGCAATTTGCGGACAAATGCGAGGCTGTTGGCGACTGG
GTTGCCTTTGTTTCGACTTCGTGTTTCGGTTTCTACGGTCAGCAGGCGCGGTTTTTGTG
TTTGTTACGGCTCAATTCGGCTTGTGCGGGTGTGAAAAACAGGCGGTGTTTTTCGGCAAA

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GCGGCGGGCGCGGCTGTTGGCGGTTTTCAAATCTGAAGCAGCGATCGTCCAGATGGAAG
 CGTCGCACGCCCAATACGAGAATCCGTGCGGCAAAAAATCGGCGGCATCGGTAACTCG
 GCGGGGCTGCTGCGGCTGAAGTCGTGCCGTTTCGGCGGCTATCAAGGCGGCAACGGTGCGG
 5 ATTTGCGGAATCATCGATTTCGTGATAAGTGTGTCTCCCGCCCTGCATCGAGAAGCATG
 GGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 799>:

GNMOB22TRB gnm_799

10 ACTTCTTAAGGTCAAACATCTACTACTGATTGACAGCGAATTAGCATTGCGAGGGAAAGG
 TGAAAAGAATTTTGGGAGGGGAGCGAAATAGAAATTCGAAATTCGACGTACATAAATAGCG
 GGAGTGTTTCAGCGGCGCGATCGTGCATTCCTCCGACACAACGGGCTAATGATCCATACCTA
 GCAGTGAGTCCAATTGAACAGGGGAGGTGCAGGGAAATTGAGCTCCAACAGGGTGACGAG
 CCGTCGGGCGCAGATTGAAATTGAGCGACTCACTTACGGTTAGGCCGAAGGCGTTGCAA
 TAGGCATCGGAGGATTGAATTTATGTACGCCGTAACCGTGGGGACGAGTCGCGGACAGG
 15 GGCGAAAGGTCAAATAAATCTGGAGACAGTCGGCCTCTTTGAAATCACCCAGGCAGCG
 TTCTGAGTAAGATATCGACGGGGGCAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 800>:

GNMOB25TE220 gnm_800

20 ATTACTGCCCAAGTGGAAAGTGGGCAAAGTGACGAAGGCACTGTGGTGCAAAATCCTCGA
 TAACAATGTCGGCGCGATTGTACAGCGTGATGCCGGGCAAAGACGGTTTGGTACACATCAG
 CCAATCGCCACGAGCGCGTACGCAATGTCCGCGACTACCTGCAAGTCGGTCAGGTGGT
 GAACGTGAAAGCTTGAAGTGGACGACAGAGGCCGTGTCCGTCTGTCCATCAAAGCCCT
 CCTGGACGCGCCTGCCGTGAGGAAAATGCCGCCGAATAACGCTTAAGGTGAAAGTGCCG
 25 TCTGAACAGGTTTCAAGACGGTATTTTTTACGGGTATCGGGAATGAATGGGGCTTACAGCC
 ACAGGACGGCAAGTTCCATAATGCCCGGGGATCCTCTAGAGTCGACCTGCAAGCATG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 801>:

GNMOD17TRB gnm_801

30 AGGTGTACACGGTTCCCGCCATTAGTACTATGTGGTCTGTGGTTCCGGCCCCCGAATGACA
 TCCTGTTGACGATAAACCTGCTGGTCCGGCACCGTGTGGTAATTCGTGTGCACCCTAGAT
 TGATAAAGTTGACCCGTGGATCGGCAAATATTATGTTGACGGCGTCGTGTTGTAAATTGT
 TGTTGACACCTGGGCAGTGGTTTGTGCCACTGTTGGTAACTCCGTTCCGGCTGGAGTCCT
 ACGTAGTAGAGGTAGCCGGCCGGATGACTGTTTCGTGACGAAGACACGTGGAACATCGGC
 35 TCGTACGGCTAGTGGGCTGGTAATAGGCATGTTGTGTGTACTCCCCCTGACACCGACACC
 CCTTAAATTGACACCGCTAATGCCTGGATGGTGGTTTATGGTCGTTAGTACACACCTGGT
 AATAAACATGTTCCCCCTGTTACTTCGTCTTTAACGGATCCTCATACCGTTGCTCGTACT
 GAGCCCGATTCTGGCCCCAGTACTTAGACGTAGCCCTAACCTCCTGTTGAATATGGTGCC
 TGTTCTGCTCGAAATGATGGGGCTGGAAACGTTGTTGACGACCTTGTTTAAATTGAAAC
 40 CCTAATCCCTATGTTTAAATGGCGTAACGTTTCGATTTAAGCCTAAATTGACAAATTTGG
 TTTGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 802>:

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GNMOD53TFB gnm_802

GGTAACGCCTAAAGGCGAAACCCAACCTGGACGCCGTGAAGAAAACTGCTGCGCGCCATC
TTCGGTGAAAAAGCATCTGACGTAAAAGATACTTCATTGCGTATGCCACCGGCATGAGC
GGTACCGTTATCGACGTTCAAGTCTTCACTCGTGAAGGTATTCAACGCCACAAACGTGCT
5 CAATCCGCCCCGATGGGATTTGATGCGTTGCGGGGAATTGATGGGGCCGGGACGAGGAC
GTTGGCGCGCAGGTTGCCGAAGCGTCCCATTTCGTCGGCGGCGACTTTCACAGGTAGTT
CAACGCGGCTTTGGACGCGCCGAAGCCGCCCACTAGGCTTTGGGTGTTTCGCCGTGGCT
TTCGCCGACGAAGATGACGGACGCGTCGGGCGACTGCTTCAGCAGCGGGAACAGGGCGCG
GGTCAGCCCCATAGGTGCGACGGTGTGATGCGGTATTGGGTGACCCATTTCGGCGACGGT
10 TTGGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 803>:

GNMOE03TRB gnm_803

GTTCCCTTGTAGGTGCGAACCGAACCCATATAAATTGTTGAATATCGTTGATGGATGTGT
15 GATTAGTACTAGGAATGTTGTAACGTGTTAAGGTCCTTGTGTTTCGCTTAATATGCCGGT
AGGAGAAATTAGTAGTAAAGGTACCTTTAAATGCGTGGATAAAGCGGCTGAAATTATGTC
TAGAAATAATAGCGTGTATTGTTAGGAATAGATCGTTTACTTAACCTATGTCAATGAC
CTCTTTCCAAACCTACGAAACCAAACTGAAAGATCGCAATATGGCACCCCTCCCCTAT
GAAATCCCATCCTATGCTTGTATAGTGCCTAGATGGTACCCCTTCGCCCTACGTTGTTT
20 GAAATTGTTTAACTTGTGCCTCTTACACAACGCTGGATCCCGTGTGTACCCCTAGGAC
CTCCCAACGGTACCCGTTCTATACCCATTTTCGTTGGATGATACTATTGTTGCCCGGAT
GACGCGGTTTCGACGATTAAAGTTGTTGTAAGAAAATTGTTGGTGCGGCTGGTGATGAC
CCGGTATTTAACGTTAATTGGGCCATGGGTGCACTGGTAGAATGTGAGCCGTTGA

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 804>:

GNMOG34TF gnm_804

CGCGCCGAAGAAATTCGCCGGGGCCGCGGATGTTGAGGTCTTGGCGGCGGATTTCAAAGC
CGTCGGTGTGTTTCGTAGATGACTTCAGCCGCGCTTTGGCGAGTTCCGCCAAGGGTCGCC
GCCATTTTCGACGGGGTGGTGTCCGTAGTCGTCCACCAAGAGCGCGGTTCCCGCGTTTGGC
30 AACTTGATGTCGCCGATTTTTTGAAGCGGCGGCGGACGCTTCAAAGCCGAGCAAGCCT
TTTTGGATCGCTTCAACCGATGCGCCGACTTCCAGCGCCACGCCGATGGCTGCCAATGCG
TTCAGCACGTTGTGTCTGCCGGGCATATTACGACGACTTCAAACGACCCCTGCTCATGT
CCTTTTCATTTGAACATGGACGGTGAATTTTCATTGCGCGCCGACGTTTTCGATGTCGGTG
GCGTAGATGTCGGCGGTATCGTCCAAACCGTAAGTAGCATAAGGTTTCTCACTTTGGGC
35 AAAATCGCGCGGACGTGTTTCGCTGTCAATACAAAAAGGCTTTGCCGTAGAAGGGCATA
CGGTGGATGAAATCGATAAACGCTGATGCAGTTTTTCGACGCTGTGCCCGTAGGTATCC
ATATGGTCTTCGTGATATTGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 805>:

40 **GNMOG50TR gnm_805**

TTTGACGGTTTCATTATGGCGCAGCAGCTTCCCGAGCCGCTGGCTTCGACGTTTGCCGCG
ATGAATCGGGGCGACGTTACCCGCGGGGCTGATTGAAAACGGCGCGGATGCTGTCTAAAC
AAAATCTCCGTCTGAACAAAAATCCCCATCGGATAAAAAATGCCGTCTGAAACGTTTCCGG
TTTCAGACGGCATTTTGTGCGGGGTACGCGGCGGTGCGGCTTATTTCACTTTACCTTTCAA
45 CGCGCCATATCCTGCCGCGTCCATTTGTTCCAGCGGGATGAATTTCAAGCTCACGCCGTT

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GATGCAGTACAGCAGTCCGCCTTTGTACGCGGGCCGTCTGGGAAGACATGTCCCAAATG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 806>:

GNMOH10TR gnm_806

5 CCCGTACAGCCCGTCAAAATCCGTCGCGTTGTTGTCGGGCAGTAACACGCAGAGAGACGT
TCAGACGGCGTCGCCCCGTTTCCCAAAAAACGCCGTTTAAAGTAAAAAATATTTTAAAC
AGACAGTTGATATTGACAAATCAAACCGAAGATTTTAAATGCTGCCAACCAATCCAA
ACCAACCGACAAACTTTGGGCGTGGATGCCGCGCATCCCCGATTTCGCCCTGCTGCCCGGC
10 AGACGCGTCAGCGAGATCGACTATATGGCGCCGGTGTTCAGACGGCATTATTGTTG
TTGGAACGCTATCCCGCCGCACTCTTCCTGCTGCCTGCCGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 807>:

GNMOH12TF gnm_807

15 CACTTTTATATAAATCATTGATCCCATACCCCAACCTCCAATTTTTGCCAACCATCTA
TTGTATATTCAACACCTAACTTTGTTACATCCATTATCACAGATTGTAAAAAGTAAAT
GCTTCTCTTTAAAGATCCATCAAATCCTTTATCTAAAGCAGATATTAAGTCTTCCAT
TATCCCTTCGCTACCGTTCGGATTATTTACTGCTTGCTCCGCCTAAAAACGTCGTATT
TAATATTGGAGTGATTGACACATGGCACGTTATATTGGTCCTAAA

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 808>:

GNMOI35TF gnm_808

25 GAGTTTGGCTGTAAGTGGTTTACCATTATGGCGGCACGCGTAAACATTTGCCGAAAATA
CGGTCTGAACCGCTGTAACAAGCAACATACTTCCAATTATTTAGATACGCGCATATCAA
CCTCCTTTATCGTTTCATCTTCAAAAAAGGGAAAGTTTTCAATAGCACTTCAATCAATTC
CTTCATTCCCCGGCCAAAATTGGACGGTAATCCCACCCACCCCTACTTTGATTTCAG
AAATATCTTTAAACTTCCGCTTAAAGGCGGACACTTTGTCCATATCGTCATCAATTCCT
GTTTGCCGAACGGTATTTCCGCTTTTCCAAAACCTCGTCATAATAACAAGATAnATTAA
GCAATAGCCCCCAAGCACTATTTGCAATTACGACTAATCTATGTTTTCCCTAGTTAAGT
AATCTGCAACGCTATCATAGATTGCCCT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 809>:

GNMOK36TR gnm_809

35 CCTTGAAATGAAGTATCTCTTATAAACTATCTTGGTAGCTCTATAGTGTTTCGTGACC
CAGTGGAGCTCCAAGCACATCTGTGGAAGGTAATCTTCACAGACACTGTGGGATTCAT
TGCTGCTTTTGGGTTGTGACTCAGCTCCTTCGGTAAATATAGCCCATTACATACTTCTC
CAAGAGCTGAATTATAGTAATTCAATTTTAAACTCACAAAACATTTTGTACAGAAATT
AACCCTAAAGGCTTTAAATTATATCATTTCTTGATAGATCACTTATATTTCTATTTCTTG
ATTTCTTACTGGATTTTAAAAATAGTCCCCTTTGGTCTTTCACATGATCTTATTTAAGCC
CCTTTCCCTAGTGTGACTTTCTTTACAATAAAGTTATTGGGAAAACTCATTAAATTCAT
40 TGACAGAAGGTATTGAACTCCTGGGTGTTGAACAGATATACAACACGCTGAAGCTGAAT
TGCGCCGTGTATCCTGCTGTGGACAAATCCTGCCGCGCGTCGGCGGACAAACCGTATTCC
TACGACAGCAGCGACCGTTTCCACTACCGCGAACAGCACAAATGTTTTGAATGCCTCGTTT
GAGAAATCGCTGAAAAACAAATGGACGAAACACCATCTGACTTTGGGCTTCGGTTACGAT

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GCTTCCAAAGCGATTTCCCGCCCCGAACAGCTTTCCCACAATGCGGCAAGGATTTCCGGAA
TCCACGGGATTCGATGAAAACAATCAAGATAAGTATCTTTTGGGTAAGCCCGAAGTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 810>:

5 **GNMOL05TRC gnm_810**

CCCCAATCGACCGACCCAAAACAAATCACCCCTGATGTAAGCCGTAGTAACCTCGTTGT
ACGCCGTTGTGCTGCACGCAACGATCCTCTGTTTAATACATGGGTAATTCTCCTGAC
TTGCCGGACCTACTTAACACATCGACCCTGTCGATGGCCCGTCTCTTTCTGTCGCGTCC
GTGTATTGTAGCGGCCCTCTTGTAAGACGTGATCCGGGGAAGGCGGGCAACCGTAAG
10 TATTCGACGCCCCCTCGTTTAATGTATGCAACGTTCCGTTGATTACCTAGTTATCTTTT
CTTAACATTTGGCACTGATTCTACTAAAACTAAGGCGGGAATCCGGGCACACCGGTCGGT
AATAATTCGCAAGGTAAGGTCGACATGTGTTAACCTGTTGTTGGAGGTAATCCACCTAG
TAGATGGGGTGGACCGTTCCCGCCGGTGGTAATCCGAAACCGAATTCGTCTTAAATTGCC
CGTTGCTGTTGATGAAGTAATAGGATGACGCTCAAATGTGTGTTCCCTACGGTAAGG

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 811>:

GNMOL83TR gnm_811

CTTCGCCGCCGCGTCCGAACACGAAAGGGTCTCCGCCTTTCAAACGCACCACGCGCCTGC
CTTCGCCGGGCCAGCCTGACCATAAGCGCATTGGTGTCTCTTGGCGGGGTGCGCTCGCCCC
20 GGGCGCGCTTGCCGACAAAAATCCGTTCCGCATCGCGGCGGACGAGGGACAGTATGCCGT
CTGAAACCAGCGCGTCGTAAAGCACCACGTCTGCCTGCTGGATTTCCTGCAGCCCTTGA
GCGTCAGCAGCCCCGATCGCCGGGACCCGCGCCGACCAGCGAGACGGAGCCGCTTGAT
CATTTTGACGACTTTGTTCGAATTGGCCTGCCAATTCCCGTTCGGCAAGGGTGTTTTGCC
GGTTTTTGACGAnGGCGGCGAAACGTCCGTTAAACTGCTTTTCCAAAAGCGGCGCGGTT
25 CGGTAACGGATTTTCACTTTGCCCTTGACGCGATCGCGCCACCTTCCTGAAATTTCCGCCA
TATCGCCCAAAGACGGCGGCAGAGGGCTTTCAGCCTTTCACGCAGCAGTCGGGCGATGA
CGGGCGCCGCCGAACATTACCTGCCTCTACATCCGTGAGGCGGAAGCACTGGGCTTGGGA
CACGCCGTCTTGTGCGCCCGCGCCGCCATCGGAGAC

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 812>:

GNMOM42TF gnm_812

GTCCCCCTGGAGGGGGCGGGCTCTTCGTTGCGGCGGAGGTTGTGGTCTTCTTCGGGCTG
CGCCTGTTTTTTGCGGAGCGCTGCGGCCGGCCCGCGCCGTTTTCTTCGGCTTGCGCCTT
TTTTGCGTTTCTGGGTTTGCCCTTCGGCGGGCTGCCTTTCGGGTCCGGGCTTCGCGTTG
35 CGGTTTTTGCGTTTCCTTGGCGGGCGGAGGGTTGCTGTCCGGCGTTTTTTGGGTCTT
GCGCGCCTGCTTGGGTTTCGGGTTGnGTGCGCTCGGTGTTGGTGGGGCCGGTTTTTTGGAA
GGTGTGCGCGTGCGCGCTGCGGTGCGGCGCGGGCCGGTCGGGGCCGCGGCGAACGCGCG
GGTCGAACGGGTCTGTTAAGGCTCCTTCGGGTGTTGCCGCGAAGTGCCGTC

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 813>:

GNMOM51TF gnm_813

ATCAAATAATTGATTTTATTAGAATCTATTTGCAAAGCCATTTGCCGTTACACAAGAATG
GCACATnTCnATAACTGATGAGGATTTATACCGATGAAGACAGACATTCAAACCGAATTA

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ACCCATGCCCTACTACCACACGATTATCTGTGGGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 814>:**GNMOM81TF gnm_814**

5 CGTGTCCGCGCTTTCGCCCCGACGATTGCGCGCTCAACCAAAATGGTCGTGGGACAAAAT
CCTGCGTTCGCCCTTTATCAAACAGGCGGACGTATTGCAAGGCATCTACTTCTTCAGCGA
CCGTTTCAATATCGACGAAAAACGCCGCAACTTCGACTTCTACGAACCGATGACCGTGCA
TGAAAGCTCGCTGTGCCCCGTATTCACTCTATTCTCGCCGCCGAAGTGGGCATAGAAGA
10 AAAAGCGTGAAATGTACAGCGCACGCCCGCTGGACTGGACACTACACAACGACACGAAG
AGGCTGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 815>:**GNMOP70F gnm_815**

15 AGGATCCCCGCGCTTCGGTACGCGCCCTGGAAATGTTGGCATGGCTGCCGGGGAAACTC
GGTTTCCCTGTCCCCGATGCGCGGGCGGTCATCGAAGGCCGTCTGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 816>:**GNMOP96R gnm_816**

20 ACGGACAAAGCGTGATGGTCGTGCGGCATCAGAAAGGGCGCGACACCAAAGAAAAATCC
GCCGCAACTTCGGTATGCCCGTCTGAAGGCTACCGCAAAGCCCTGCGCCTGATGAAGA
CCGCAGAAAAATTCGGCTTGCCCGTAATGACCTTTATCGATACGCCGGGCGCGTATCCCG
GCATCGGCGCGGAAGAACCGCGGCAGTCGGAAGCCATCGGCAAAAACCTGTACGAACTGA
CGCGCCTGCGCGTTTCTGTTTTGTGTACCGTCATCGGCGAAGGCGGTTTCAGGCGGTGCGT
25 TGGCGGTGCGCCCTAGGCGATTACGTCAATATGCTGCAATACTCGACCTATTCTGTTATCT
CCCCCGAAGGCTGCGCGTCTATTTTGTGAAAAACCGCCGAAAAAGGCGGCGGATGCGGCTC
AGGCTTTGGGCATTACTGCTGACCGCCTGCAAAAGCTGGACTTGGTCGATACCGTCATCA
AAGACCATTGGGCGGCGCGCATCGGGGATTGGGGCAAAGACCGCAAAAACCTCGTGACAT
CATCGCCGCTTTAG

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 817>:**GNMOS68TRB gnm_817**

35 TAGCAATTATTGTTTCGAAATAAGGTGATATTGCCATCCCGGCTGGCCCTGGCATCCCTC
ATGCGGGTGAATGCGTGGAATGTTAAGGTTGTAATTTAAAAATTGGTGAGTTCTCGATTA
CCGTTGTTGTTAAAAATGTTCAAACCTTGTTGGTAAAGTCCCGAAAGATGTATCGCAAG
TTGCCCCCACGAAAAAAGTTGACCTCCCAAAGAACTGGTCCCCCCTACTGGCTTATACCA
CCTCGACCCTAACTGGTAATATATCGTCCGCTATGCGTCCTAAAGGTACCCGTGTTGTT
GAGTAGGCTAAGTCGCCTCCGCGTGTGAGCCCGTTGAAGGACTCAACTCGCCCTCTGTC
TAACTCGCTTAAAGGTCGTCTTTATACATACCCGTAGCAGCTGATGGTGAGGTGGGCACC
40 GCCCGAACTCAAATTGTGGGTTTGTAAACTGCCCGTTACCCCTGGTAAATGGAACACC
TCCTATGTAAGATCTGATAACCCCTCGCCCCGTTTCGTGGCCCGGATACTGTGTACCGGA
GAGTAGGGTGGCCAAAGTGAGTAATGTTAAACGATTATGTTTAAACGTGGACGGCGTG
GACCCC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 818>:

GNMOT05TF gnm_818

5 GCGGCAAATCCACCTACATGCGCCAAGTCGCGCTGATTGTTTTATTGGCACACACCGGCT
GTTTTGTGCGTCCCGTTACGATATCGGAAAACCTTTGGTATTGTGGCGTAAGAATATCG
AAGCCTGACAGCCTGAAGCAGTTGTTTTGCTATTGTTCTTTAACGGGCGGGACGCCGTCC
TTCGGCGCGGCATTTTCGGCGGGCCGAAACCTTTCCGGTGAAAACGGATTTTGATTGCCG
CCCGATGCTGTCTGCAAGTTGCGGCGGCTTCCGTATGGTTTGAATTGTTGACAGGATGAT
10 TGGAGGGCTTATGCAGTTTCCTTACCGCAATGTTCGGCTTCGCGTATGCGCCGTATGCG
CAGGGACGATTTTTCACGCCGCTGATGCGCGAACACACGCTGACCGCCGATGATTTGAT
TTATCCGGTGTTTCGTATTGGAGGGTTCGGCGCGCAGGAGGATGTGCCTTCTATGCCGGG
TGTGAAGCGTCAAAGTTTGGACAGGCTGCTGTTTACGGCGGAAGAGGCGGTAAAGCTCGG
TATTCCGATGTTGGCACTGTTCCCGTGTTTACGGCAAACAAAACCGAGCGTGCGCAGGA
15 GCGGTACAATCCCGAAGGACTCGTGCCGTCAACTGTCCGCGCTTGC GCGAGAGGTTTCC
CGAACTGGGCATTATGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 819>:

GNMOT41TR gnm_819

20 GGGTATGCATGTTTGATTCCGCTTCTTTACGCCACGTGCGGAAGCCCCAGCGTTTGAAAT
CGACAACCAGCTGCGCCCATTTTCGGCGTAGTACGGCGCAGGCTTTCGATGCCGTCTGAAA
GCTCGGCGTGCAAGTCCACATCGGTTTTAATCGTGACCAAATCATACGACAGCGGCAGTT
GGGGCAGCGCGGCTTGCAGGTTTCGCCCCACTTTGCCCTTGATTCCGAAGCGTGTTCCA
TCACACCAGCCAGCGAACCGTAGGCTTCCAGCCATTTACCGCCGTTTTTCGGGCCCGGGC
AATTTTCGAGCTGAACGTCTATATGCCCCGTTATCGCCTACAACCTCTGCAATCCATCCAC
25 CTGTTGGGCGACGCGTGCAACAGCTTCAACGAACACTGCGCCATCGGCATCGAACTCGTG
CCGGnAAAAATCGACTATTTCTGCACCATTCCCTGATGCTGGTTACCGCATTATACCGT
AAAATCGGTTACGAAAACCCGCCAAAGTCGCCAAAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 820>:

GNMOU02TR gnm_820

30 AGGTTGGCTTGTTTCATAAAAACTTATTACATGTAACGGTTTGAACGGACATTCCGTC
GGGTCGGAATGTCAAAAAGGCGGATTGTACCAAAGAAGTTGGACATAATTTGTTTGCA
GGCTGAAGATTTGCTTAAAAATTCATTAAGATGGGCGGAACAAATAGTTTGGGTACAGCG
TGTTGAAATACCGCTTATCCCTTAAAATAGCGTCCGAAATTCGTTCGGACGGCATCAAG
35 ACACACGGTAATCCGTCTGAACCCCCATTTGACATCAACAAACAAGAGCATTGAATGAA
ATTCATCGACGAAGCAAAAATCGAAGTCGCCGAGGCAAAAGCGGTAATGGCGCAACCAG
TTTCCGCCGCGAAAAATTCGTACCGCGCGGAGGTCCGGACCGCGGCGACAGCGGCAAGG
CTGCAGCGTCTGGGCAGAAGCCGAAGATCACACCAATACCCTCGTCAATACCGCTTCGT
TAAACGCTA
40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 821>:

GNMOU06TR gnm_821

GGTAACTGACGGATCGGGCATTCTTAAATTACCCGTGTATCGCTGTAAATCTTAGAGAT

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5 GGCGAATATAGCGGACTGCATCACCGCCCGCCCGATTCAACCATGGCGCGCCATGCCG
ACATCCACATCACGGCGTCGGTTTCCAAAGAAGCCTGCCGCTGGGGCTTGCCCCGACCA
CCAGCACCACCGCCGTCATGGCTTTGGGCGATGCGTTGGCGGTCGTCTGCTGCGCGCAC
GCGCGTTCACGCCCCGACGATTTGCGCTTGAGCCATCCTGCCGGCAGCCTCGGCAAACGCC
10 TACTTTTGGCGGTTGCCGACATTATGCACAAAGCGCGCGGCTGCCGTCCGACTCG
GCACGCCCTTGAAAGAAGCCATCGTCAGCATGAGTGAAAAGGGCTGGGCATGTTGGCGG
TAACGGACGGGCAAGGCCGTCTGAAAGGCGTATTACCGACGGCGATTGCGCCGCTGT
TTCAAGAATGCGACAATTTTACCGGTCTTTTCGATAGACGAAGTCATGCATACGCATCCTA
AAACCATCTCCGCCGAACGTCTCGCCACCGAAGCCCTGAAAGTCATGCATGCAAACCATG
15 TGAACGGGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 822>:

GNMOU37TR gnm_822

15 TTTTTCACACGCGAGTCCGAAACGTCAGACGGAGTTTGCGGTGCGACAGGTAAAATGGTGG
CGTGCTTATTGAAATTTTCGACAAAGGTCGTCTGAAAACCGAAAAATATGGATTTAGACCA
CCTTTGTGTATTTGGTAAGTATATGTTCCCGTTGTATAATTACGGAATTGCAATTCAAT
ACAAAATACACAGGACACGCCATGACAGAAATCCATCACATGAGACAGTACACAATACGAT
GTCATGACTGTAGGCGCAGGCCCGTCAGGTTGTCTGCCGCCATCACAC

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 823>:

gnm_823

25 ACACCGTCTTGTTTCGGCGGTATGAATATGGACAAACAGACCGCGACCTGCGTGCCGGCT
GCGAAATCGTCGTCGCCACCGTCGGACGGCTGCTCGACCACGTGAAACAGAAAAACATCC
ATTTGAACAAAGTCGAAATCGTCGTTTTGGACGAAGCCGACCGTATGCTGGATATGGGT
TTATCGACGACATCCGCAAAATCATGCAGATGCTGCCCCGCCAACGCCAAACCCGTCT
TTTCCGCCACCTTCTCCGCCCCGATACGCAAACTGGCGCAAGACTTCATGAACGCGCCCG
AAACCGTCGAAGTCGCCGCGCAAAACCGGCATCGCAACTCCAAAGAGAAAGAACCCAAAC
CGTCATTCCCGCGAAAAATAGAAAATCAAAAAAAAAAACCTAAATCCGTCATTCCCGCGC
30 AGCGGGAATCCAATCCGTCCGGTTTCCGTTTTTTTTTTGAAATTCAGGTAACCTCCAAA
CCGTCATTCCCGCGAAAGCGGGAATCTAGAAACTCAAAGCTGCAAGAATTTATCAAAAAT
GACTGAAGCTCAAAAACCGGATTCTACGAAAACAGGAATCCGGAGTCTCAGGGCTGGC
AAAACCGTTTTACCCGATAAGTTTCCGTACCGACAGACCTAGATTCCCGCCTTCGCGGGA
ATGACGAAATTTTAGATTGCAGGCATTTATCGGATAAAACAGAAATTAAGCGTGACGAAA
ATTTATCCGAAATCACAGCAACTTTCCGCGTCATTCCCGCAAAAGCGGGAATCTAGAAA
35 CTCAAAGCTGCAAGAATTTATCAAAAATGACTGAAACTCAAAAACCGGATTCCCGCGAA
AACAGGAATCCGGAGTCTCAGGTTTGGAAAAACCGTTTTTCCCGATAAGTTTCCGTACCG
ACAGACCTAGATTCCCGCCTTCGCGGGAATGACGAAATTTTAGGCTTCTGTTTTGATTTT
TTGTTTTTGCGGGAATGACGAAATTTTAGATTGCAGGCATTTATCGGATAAAACAGAAAT
TAAGCGTGACGAAATTTATCCGAAATCACAGCAACTTTCCGCGTCATTCCCGCAAAAG
40 CGGGAATCTAGAAACTCAAAGCTGCAAGAATTTATCAAAAATGACTGAAACTCAAATAAA
CCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 824>:

GNMOV26TF gnm_824

45 GTGCCAACAAAGGCGAACCCCCGGAATGAGGCCGATACCAATATTCTGAAAACGTCGAA
TCTGCCTTGCAAGACGCGGACATTACCGTCGGCAACCTCGAAGGCACGCTGTTTGACGAA

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5 GGCGGTACGCCGGAGAAAATGTGCAAACCCCCAAAATATGCTATGCATTCCGAACGCCCT
CCGCATACGGGCAATACCTTGCCGACGCGGGATTGCGACTACCTCAGCTTCGCCAACAACC
ACAGCAACGACTTCGGCGCGCAAGGCATCACGGCAACGGCGGCGAGCGGCAGCTCTTTTA
CATACTCGATCGCGCTAAAGCCGCTGCCGATAACGATGCCAAAATTGCGGGAAATACCGC
CATCGCCAGATAAATTTGTCCATCATCAGACCTTTACTGTTGAGACGAGACAGCATTG
CCGCACGTTTGGGGCTTATCTTTGATTGCGCTACGTGCGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 825>:

GNMOX61TRB gnm_825

10 GTTCCGTCCTTGATTGCGATTGGTCGATAGTCTAATACTACGATCCTTGTGAGGTAGATG
AATGTAACGTGGTAGAAGACGTTGTTACTTGTGTTGTCGCCCACGGACTATCCGAATGCGG
ATGAAGAAATTGTTGATGCATCGGCCTAGGAAGGCCCCGTAATCCGGAAGAAGCTGTTC
ACGCCTTCGTTGTTGAATCGTCCGTTACCGAAGGACCCGATGAAGAACTGCTGACACGT
CTTGTAATTGTTGTTGTGACGTTACTTCGATTACGGTGACCGTTGTTGAAGAAAAATCGG
15 GTGAAGCGCTTGATGACACGTGTAATTCTGAAGGTACAGACGTTGACACGTCTTGTAGTT
CCGTTGAAGTACGTACCATTATTTGTGATGATCCGGTAGAGTCCGTCGCGGATGAATCGA
CCGAACTATTGGCGCAAATGAAGAAATTGTAAGTTGCTACTTCGATTGTATGTGAAT
ATCGGCCCATTTAAGATAAACAAGGGGGCATAGACGAGCAATATAATTGCAGAATAACC
CGTTGTTGAGTCGAAATGTTTTGCTGAAGATTCCCGCA

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 826>:

GNMOY35TRC gnm_826

AAAATTTGGACCTCTCCTCAAGTGAACCTCGTTCCTATCTAAGTCCTCCTTGTACTCCCC
CTAGCCCATTTGACAAGCGCGAACGTTCAAAGTTCTCCTCCCTCTCAGAAAGGAGGCGACT
25 TAGTTGTAGGCCTTTTCATGGTCATTCCGCCATGATCCTATTTTAGCTACGAAGTACATT
GCGGCAAGTGGATCTTCCGCGGCCACTTCATTATCCTCGGCACCTTTTATCTTTACGGC
GCGATGGGTGGCGCGCATAAGATTTGGGAATGCACCTATTGTAGCACGTCGATTCTGTGAC
CATCAGTGACCTTGATCCTACGTATCTGAGCCGTAGAGCGTAACCTGGATCATGACTGGC
CCGCGAGACCGGTCTTGTCTGTGGTCCGGTCATTTCTCGCATTGATTACCGCACGATG
30 CGCGAAGTTTCGGCTACAAGGGTTACGAGGATCCGATGCTACTTTTATTCCTTCTTGGTC
CGCTATTGGTAGCTCTACCAGAGCGTTTAATCGAACGACGGTAATCAACGATAAGGGCCG
TGTCTGCCGTGGGATCCAATTTAATACTCTATGATATGAGTCGATGATAGTTACGTAGTA
TTCGC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 827>:

GNMPB01TRB gnm_827

ACACTCTCCTAACACTCCTGGCTGGTACACGTTGCTTGAATTGGGCCCACACCCTAGATG
GTACCCCGGGACCACCTGGACCCCGTGCATCTGAAGGTCGGACAATGATGTCGATTTTCG
TTGGACCCGGAAGTGGACCCCGTGTGGACCCCGCGTCGTTGTGCGACGGCACAGATCCTG
40 GCCCGGGCGCCGACGCACTATTGTATTCCTGGTGATACTGTTGTTGTGTCGCATCCCG
GTACCATTTGGCCAAGATCATGGCGTCGTTTCGTAGACGAACAAGTAATGCCGCCCGTTTCG
TTGTGTATTGCGTTCCCGTTGTTGCTTAACGCTCGGTGCAAGTGGATCGGTGAATTCCTT
GTTTCTATGACCTGTTGTTCCCGTTGTTGTGCGCAATA

45 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 828>:

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gnm_828

GGTGGCGGCGCTCTAGAACTAGTGGATCCCCGGGCTGCAGGAATTCGGCACGAGCCCA
CAGTGAGTTTCCCCACACTCGGCTCCTTGGAGCCCCGACAGTCCATAGCACCCAGGAG
ATGTCTAACCTTAGGGACTTGGAGGCCTCCAGGGGTCTAGGCCAGCTGAGTTGTGAAGT
5 TGCAATGGCAGGGACAGGGCAGGGCCGAGGCCAGGGTTGCTGTGATTGTATCCGAAGTAGT
CCTCGTGAGAAAAGATAATGAGATGACGTGAGCAGCCTGCAGACTTGTGTCTGCCCTTCAA
gAAgCCAsACAGGAAGGCcTGCCTGCCTTGGCTCTGACCTGGCGGCCAGCCAGCCAGCCA
CAGGTGGGCTTCTTCTTTTGTGGTGACAACGCCAAGAAAAGTGCAGAGGCCCCAGGGTC
AGGTGTAAGTGGGTAGGTGACCGTAAACACCAGGTGCTCCAGGAACCCGGGCAAAGGC
10 CATCCCCACCTACAGCCAGCATGCCACTGGCGTGATGGGTGCAGAGGGATGAGGCAGCC
AGGTGTTCTGCTGTGGTTTGGGAGCCTATAAAGTGAGACTAGGCTGGGCATGGTGGCTCC
CATCTGCAAAACCAGCACTTTGGGAGGCCAAGGTGGGCGGATCGCCTGAGGTGAGGAGTT
TGAGACCAGCCTGGCCAAATGGTGAACCCCATCTCTTAAAAATATAAAATTAGCTGG
GCATGGTGGCAGGTGCCTGTAATCCAGCTACTCAGGAGGCTGAGGCACGAGAGTCGCTT
15 GAACCCGGGAGGTGGAGGTTACAGTAAGCTGAGATCTTCCCACTGCACTCCAGCCTGAGC
GACAGAGTGAGACTCCATCTCAAAAAAAAAAAAAAAAAAACTCGAGGGGGGGCCCGGTAC
CCAATTCGCCCTATAGTGAGTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 829>:

20 GNMPE45TF gnm_829

TTAATCAAACCTTTAATTCATTATTAAATGCCTGCAAAAATATATAAAAGCGGGTGGGTTT
TCCCGACAAATAGTTTAAATGGAGCAGCTATATTTTTTTGGTGATGCGTAAAATCTT
ATTTCAATTATTTTATTTTGAATAATGTATTAACAATAATGGAATTGGATATTGAAATAT
25 CAGGTTTTTTTTGAATTAGATTATTATGAAGATAATTATAAAGTAAATTGGAAAATAAATA
ATGGAAATTTGATACAAACGACTAATTAAATGGACAAATATAAGTTAGATTGGACACCCA
AACCTAAAACCTGTCTGAACTCAATTTGGTTTTAGTAAGCGTAGGTTGGCTTAAAAAC
CCAACCAACAAATGCCGTCTGAAGCGGTATTAGCTTTCAGACGGCATTTTGATGAATG
AAACAGGATATTGAGAACTAAGTTCTTTAAAAATCCTACACCTGCTCCTTCCACGGCAGC
ACCTTGGTCAAAACGGCAGACGGCTACAAAGCCATTGCCCGTATCCGAACCGGCGACCGC
30 GTCTTCGCCAAGGACGAGGCAAGCGGAAACGGGATACAAACCCGTTACCGCCCGATTA
CGCAATCCGTATCAAGAAACCGTTTACATTGAAATTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 830>:

GNMPE65TR gnm_830

CCCGCCCATCATCGTACTGCCCCGAAAGGGACGTACCCGGAACCAAGTGCAAACACTTGGGC
AACGCCGATCATCAAGGCATCAATCGGACGCAATGCATCAACATCGGCAATTTTAGGCTC
TGCTCGGCTTTGGCGTTTCTCCACCCACAAAATAAAAAAACGCCCAAACCAAGCATGAC
TGCAACACTCAAGGGGTAAACAGATACTCTTTGATTGTTTGCCGAACAACAGCCCCAT
CACGGCGGCAGGTATAAAAGCAATGGCAAGATTAAGGACGAAGCGGTTGGCTTCCGGTC
40 TTTTCCCAAGCCGTGCAACACATTGCTGAAACGTTGCCGTTATTCAAACACTACCGCCAA
AACTGCACCGAGCTGGATGGCAATTTCAAAAACCTTGTGATTGCTGTGAAAACCAATCAG
ATTGCCGAGTTTCAAGCTTCATGAAGCGGAGGTCAAACCGATCGACAGGGAGAAGGTGCCG
GGCGAGGTGCGGGAAGGAAAAGTTTGCAGATTGACGGCGAAACCTGCTGAAAAAT
CCCGAATTGTTGTTCCCGCGCATGTATTCCGCAAGTGGTCTCAAACAATATTGCCGGTATC
45 CGCGTTATTTTGGCGATTACCTACAACAGGCGCAGCAGGATAAGATGTTGGCACTTTAT
GCACAAGGGATTTTGGCGCAAGCAGACGGTAnGGTGAAGGAnGCGATTTCCCATTACCGG
GAATTGATTGCCGCCCAACCCGACGCGCCCGCCGTCCGTATGCGTTTGGCGGCAGCATTG
TTT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 831>:

GNMPE66TF gnm_831

5 GCTTCAGACGAGCCATTTATTATATGGAGATTATAGTGGATTTCAGGAAGCGCGTTCTTTC
GCGCGGAAGACGGCAGGCAGTTTGTGCGATGCCGACAAAATTATCGCCGCCGCTACGGT
TTGGCGTTTTCTTTGGAACACGCTTCGGAAACGCAGGAAGGCGGGCGCACGTTCTGTATC
GCCGATTTGAACATTACCGTGCCGTCTGAAACGCTTGCCGATGCCAAGGCAAACAGCCCC
CTGTTGTACGGGGAAACTGCTTTGTGCGATATTGTGCGGCAGAAGACGGGCGGCAATGTC
10 GAGTTTAAAGACGGCGTATTGACGGCAGCCGTCCGCTTCTCGCCGTCAAGGACGGTCAG
ACGGCATTGTGCGACAACACGGTCGGTATGGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 832>:

GNMPF05R gnm_832

15 ACTATCTTCTAAAGGTTCACTTTTCTCCAAAATAGAAAAGGCAGCTTGGATATTTTCAA
TGGCAGGGAAGGCAAATCTTCAACGAGACTGCCACAAATAGCGACAACAGGAACCTCCGAC
AAGGGTTCTTTTGTCTACACCAATAGGCGCTTCCCTGCTAAACTTTGACGATCTAGTCT
TCCTTCACCAACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 833>:

20 **GNMPF17F gnm_833**

TTTTTTTTTTTTTTTTTTTTTAAAAAATATCATTTATTCTTTTATAACAATAGCAATAAAT
TTATTATATGTTAACAGCAGAGTGATGACATCATCAGTATCACATAGCTTCTGGAAAAT
TCCACCATACTTTTGTAGAGAAGGACAGATAAATGGTCGATAACATCTTAGTATTATCA
25 TGGAAAAGTTTTGATCTTATAGACCCCTCAACACCCAAAAGTCGTAATCAGTTCTACTCA
AGTAAGATTTAAATATATATCTATATTTTCTGGTCTGAGATTCTTTTCAACTTTACTCAG
AAAACATATACCTGAAGGGGGAGGGGGAGAGTGACAGATGAGTCTGTTTGTATGTGGAT
GGTCACAGAAATGACAGAAAATAGTTATTTAATCTGAATCTGGACCCTGCTGAAAACCTGC
CGTGATTTCTCATAACACTCTCCTGCCCTTCAGAAAGTGAACCTGGCTGATAGT

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 834>:

GNMPG84TR gnm_834

CGATTATTCTGACAATCAGCATTTTCAGAAGTATGCCTAAAAGTGGAAATCAGACCGGCAA
GTAATGGCATTATTATCCCTTGAACGAACCGAAAACGACAAAAGCCGACATAATGATAA
35 AGGCGAGCAGTACGGCAAAGCGGATTTTTTCGGCGTGACGCATAACGGCTCATAGCTTG
CCTGATATTGCTACCGAAAACATGAAAGGTTTTTCGGCTGCGGACATACGCCGTTAGACG
GTAAAAAGTTATGTGAAGACCATGTCGTATCGTCTATAACCTGCGGTATGCTTATATCGT
GAAACATGCCGTCTGAAGGTATGCCCATCTGCTGACAGGCTATGATTTCCGGAAAATAAT
CGCACAAA

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 835>:

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GNMPH28TRD gnm_835

CGACGTTGAGTGCCCCCTTAACCTAACTCCCCGTGATAGGGTGCCGAAAAACGTAAC
GGTGAATGCTTGTGGAAATCGTTAATATTGTATTGTTTCTCTGCTTAGCGTGTTCGT
AAAGTACTTGGTATCGTCTAGTTAAAGATCGTGTGTGGCTCGTTGTACCCCTGCGCCT
5 GCGTTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 836>:

GNMPH38TF gnm_836

10 GCGCCCGCCAAACGCGGCAAGCGGCATACCGGCGCCGATGACTTTGCCCATCGTGGTCAG
GTCGGGCGTGATGCCGTGCAAAGATTGCCGCGCCGAGCGGACGCGGAAGCCGGTCAT
CACTTCGTCTGTAAATCAACACCGCGCCGTATTTTTCGGTCAATCCGCGCAAGGCTTTGAC
AAAGGCTTCGGTCGGGCGGACGAAGTTCATATTGCCGAAGAAGGGTTGACAAATCATTCA
AGCCATTTTCAATTTCCACTGTATAAAGTCCGGTCATTACCTGTGCTTTGCACCTCTTGAA
ACCGGGCAACGGCTCAGTGGCAGGGTTGGCAACCAAGTAACCGTATCGCCGACTTTGCG
15 CTGTCCCAATTCTTTTACGCCGGTATTCAAAAAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 837>:

GNMPH48TR gnm_837

GTCCGATTTGCCGACnAAACCGGGCCTGAAAGTGGACCTAGAGGGAAGAACGCGTTAAGA
20 GGACAACCTCGAGCTGTAAAGACACCTGCCTAGGGGGTAAATGAGTGGTGAACCGGTA
TGGGGTGTTAAAGACAAAACCTACTGGCCAGAGGGGTAAAGCCTACCCAACCTAAAGTG
GTAATCACATGCTTATAAAGACTCATAATACCAATGTTTCATACCCCGGTGGGGCTGATA
TTAAGACCTCTGGGTTTGCTGAAATGGGCATCAGTGACGTGGTTGGTATTAATCAGAATT
AACGTAATAGTGCATATGGGTGGAGTAAACGTAAGTAACGTTACCTACCGCGTAAGGTTA
25 CAGATCAGATGGCTTGCACTAAACCTCTATAAATTATTACTCAGCTTGTATTACTGTTG
CTGTTGGGAACGGGGAAGCGGCTACCCACATGGGGGTAGAAAAAGTGGCGAGGCTTGCA
GTGATCCTTGTAATAGACGACAAGTTAATTTGGGGGCTGGCTTAAATCGAGACCGTCTA
TTGGCCGCGTTATAGAACCCATGTATAATAGTGCTGAAAAGATCAAGCGCAATAGTGGTA
CCAAGGGTAGACTCAGGGGTGCGGCAATACAATGACCGGGACGAACCAGGCATTCTAA
30 ATCCCGAAACTAGGGnTAGTTGTAGTAGAAAAGGCAGAATTGAAATTACTACTAAGTTTT
AGATTGnTAGTAGGATGCCTTCGATTCTnTAATCTTAAGAGACAGnGTGGGAAGGGTGGCA
T

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 838>:

GNMPI02TR gnm_838

AAGAAAACAAACCTCGCCCCCTTCTACGCCCCAGGGAGCGACCATAAAACGAAACTGT
CGACGCGACCACTGGACGTGCGCTAAGTGATTGAAAACAGAATCCCCCTAGGTCGT
TCCCGCAGCCAATGCGAGAAACCCAGATAAACTTTGACCGTGATCCCCAATATACTCCC
TCCACCGTGGACAGAACATCAAGCAACGACAAAGACGTACCGCCACCCCAAGGATGCCA
40 GACCGACCACGAACAATTTATAGCAAGAGAATTTACCATACCACGAATGTTGTATAATCT
GATTACATTGTTAAAGCCCCGGTCGAAACGTGATCCCTAAATAGTTGTTGACGTTGCT
TCTCTTGTTACCCGTGTGAATATAAAAAGTCTGGTAGCTAAGACTGTTATGCAAACGTG
TGCAAATTGTTCCCGTTGTGTCGTGTT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 839>:

GNMPI04TR gnm_839

5 TTGCACCGGGTAAACACATTCTTGACACCACGCTCGAAAATGGACACCTTACAGAGTAAA
GTGGCCCGGAATATCGTTAACACGTTGATGATGGTAGTGGCCCTGCGCGTAAAGCCTTG
AAGGATGTCACCCGTGCACGGGTGATAATTGTGATAATAGCGTTGACCTGTGTCATCGGG
GACCCGCGGACGATAAGTCGGCCGCTGGTAAGGTAACGCCTACCCCGACGAATCCTGGTG
ACCCCTGGTAGGCTTGGCATGGTAACCTGCCAGGTTAGGAAGTTAAGAACGTTGCTCGAAA
ACAGCCCTAGATGGTACCCGTACCTTCTATCCCATAGGTGAGCTCAATGCCGCTGGAC
10 CCCTTCACTTAGCTTAACACATGTAGGCCCCGTATGGTGAATCGTTAACACCGTTTC
GACGAACTAACGCGAAGATCGTTGCCCTAGTGAATTGAGGCAAACCGTTGAAAGTGCTA
GTGTTATTTTCGTTTATCGTATGTTCTTAACCTGGCCCGTTTAATTTGAAACAACCTGACGA
ATA

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 840>:

GNMPI06TR gnm_840

TTTGCGGGTCCCGCTCCCGTAAGTAGTCTGCTGTGGGGTGTGACGCCGATGACACCTTT
CCGTCGGTGTAACACTGAGGCCGTGTGTTTCGTACAATTAACTTAAAGTTCGACTTTAAGG
TATACTTCCGAGGGAGAGGGCTACCCCGTTGCCGATGGAGCTGTCGGTAATAACGCCTAC
20 CTTGGACCTCCCGTTAAACTCGTAGGACGGCGTGGACCCTGATACTCCGGAAGCTAAG
GGAGACCCCTTGGTTCGCGAAGGCCCGGGTGTACCGCTATGTTGTTGATCTGAGGCC
CCGCCCCCTGGTAGGATCCGGAAGGCAAAGCACTTGGGTGTGGTGGACCCGCCGATGAG
CCTTTAGCCGTTGGTTCGCGCGACAACCTAGTCGGGCGCTGTCACCGAGGTGCCCTAGTGC
AATCCCCGAATTGGCGCCCCAAAGCTCGTTATACTTAAATCGTGCCGGAGTGCGGCTGG
25 TAAGGCACGGCCCCCTAGTGCAATGACGACGCGGTTGCGTCGCCGGTCGACGCAGGGTCG
TTTGGTAAAGTTTAACTAGTTAACCTGACAACGTTGGTACCCCGTTGCTCCCGTGGA
AC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 841>:

GNMPI11TR gnm_841

GTTCCCCCTAACACAATCCCGACAAGAAGGCACGGTAACGATGTCGACAACGTTGAGCAC
TGTGATGATCACTACTACTCTAACTAACGCAAATTTCCCCCGCCTTACCCACCATCTAC
TACCACCGTCCATACAAGACCGAAGGATGATTATGGCACCAGTACCTCCATTTTAAGTTC
CGGTAGCAATTTGACAAATACCCCTCTTGCCCTCCTATGTTTAAACACCTGACAACACAAT
35 GCGGTACCCCGTCGATGTCCTCTGCGTTCCCTCCACACCTTACTTTCCCTCCGCTAACGT
ATAGGCTGGCAGAACCCGTAGGGTAAGAAATGTCCTATTGTTCTAATGGCGGGTCCGTTCC
GTATTATGACACCGCTAAAAGTTCTCCTACCACTACCACCCGCTTGATACCTATCGTGG
TATATAGATTCCCTTATAGCCCTGTCAAACGCAATTCCATCGCTTGCACTACACCTTA
AACTTAAATTCGAAGCCTGTTCTTTGTAAAGTTGTTCTGGTTAAAGATAAAGTTAACC
40 CTTGCTCGACCTGCCGTATCGACTTGTCGTCTGGCACCGCAAGATCGTGTGGTAGCCA
T

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 842>:

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GNMPI15TR gnm_842

GGGCCTAAGGTGCGACCCCTCTGGATGACCCGATCACGGAGGGTGTGCGTGGGGTAGGTG
GTACTAAAGAATGTGTTTGTACCCTTCCCGAGGTAGGCCGTGATACTGCTTCTGCTCGTA
ATTGCTTTGATTCCGCGGACGAATCGTGTGAAGACCCTTGTAACCTTCGATAACTTTATCC
5 CGGTGTAATGCCGGTAACACACGGTTAATATGTCTGGTAGCGTTGTTGTGAAGTTGCGA
CGTAGATGGTGGACCCCTAAGTGGTGTAAAGTTCCCGCCGTGGTTCCGTTCTGTTGTAGG
ATATGGTGGGTGGTGCAGAAAGCTGGTGAAGTTCCCAAATTGGTTCGTGCCCTAATAACTC
GTTGACCCTACTAATTGCCCGCTAGGGAAAGGTAACGACCCCCCTGGCTAGGCAGAAAGC
CACTCCACCGAACCATCCAAAGACAACGACGACCACTAATATCGCACCTAAATATAATGC
10 CCCAACTTGTTTGATATGTGGTAAAAAGGTAAATGGCACAGGTATGTTGTATCCCCCG
TGTCACTAATATGTTCCATCCAACCTGGAACGCAGTGTAAATTTGGCAGTGTATCCTGCCT
GGGATGAAAGGGGTGGAGGCCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 843>:

GNMPI18TR gnm_843

TTCCGCCTCCTTATGTCCCTTATCCTTAACTTGACATTGTTGCGTTAAGTATGGGACTT
TAGCCTATTAAGTCCCGTTGCGGCAACTAAGTTCCGTCTACATAGGTGTCTGAATATC
CTGGCCATGGCCCTGGTGTGTATGCTGCTTACTGCGAAACATCTGTCTGCTTAGCTGGTA
GAGTAGTTTATGTGGTGTACCCGCCGGCAACTGCGTTGCTGGAAATCCTCCCTTACCTT
20 TATATCCCTCTTAAAAACCCCTGTGATTTAAGCTACGGTGGGATATGCCCCGTGTAGTA
AGTCGATGTCTAATTATAACTCGTGCAGTACGTTTGTGCGGCTCGCGTTGGGAAGTTAG
GTGCGCCGTAGTTCCCTACGTGGCAGCAGTGGGCTAGATTGCTTACAACGGCCCGGCCG
AAGGTACGATTTACGCGTAGTGCCTTGGCCAT

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 844>:

GNMPI22TR gnm_844

TAGCCGATAAATGGTGCAGCCCGCCCTGTTACAAGTTGTAACACTAAGCCACAGTGGACC
AAACCCAACTAGGTAAGGTAATGAAGTTGTAGATAGCATAAACAGCATGGTAAGGTGA
GACAATGTTGCATCGGCCCAAACCAACTTATCACATAGACAAATAACGTTGCTCGAATG
30 TAACGCGCTAGATGGTACCCATCCACTTATAGGCCCGCTAAGTTCCAGACCCCGTTTCG
TGAAGCACCTTAAAGCGTGGATGAGCCGGTAGGCGCAGGATACCCTGCCGCTGCATTAGG
TAATGGCCCCCTATTAACCGCCCGTTGTTTATGGCTACTATGTGGGCCCGGCTGTACTGA
AGAGTGAGTTGCACCTGACGTTGATAATGCTGGAAGAAATGACCCGACTCCTGCCGCAGT
TGCAAGACCTGTCGGTGGTGGTCCCTACTGTGGTGCCGACCCTCCTCCCGGCCATAGGGT
35 GCCTGAGGACGGAAATTAACCTGGCTAGTGAGTTGTCGGTAATAGGGATGTCCCGGGTGG
AGTTGCTGAGCCCGTTGCCTAACCTGGGGACAATTAGATTGACGGTTCCGGTGGTATTGG
CGTCGCCGGGTATGACGCCGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 845>:

GNMPI23TR gnm_845

AAAATTTCCGGTGCCATTTAATCCAAGTGTCCGTAGTATACTTTTCCCTGTTAAGTCGG
TGGCAACAGTGAAAGAGGTTTGTATTGACTGTTTCTTTAATAGCCGTGTAGTTTGAACG
GTGAACGGTGTTCGACGTGGCACCCTCTTCCATGTACTCGCGTGGCACCCTATATTGTA
CACGGCGTATCTCTAGCATAACTCGTCTCGACGTTGTACAGCCAAGTTAGTTTTCATTT
45 GTTAATATTTGCCGATGTGTTTCGATGGGTCCGCTCGTCTTTGGTACTTGTCCATAGATA

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AGTCGCGATTGCTCTTGGGAGTCGTACGCGCTAGAGGCCCTATTGCTACTATTGAAATG
TGTGAGCATGAAAGGGTTCTGCGACATGTTACCCCCACAGGCCAACGCTACGACAACAA
CGGCCCTCCAGATGCTAGGCGGTATCCCC

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 846>:

GNMPI27TR gnm_846

TTCGTCAAACCAAAGnACAACCTACAGACACGGCAGGGCAACCAGAGAAATATTCCACACC
GACGCAGCCGTACTCGACGCCAAAAACAACCTTACAAGACCAAGTCCGGCCCGCGGCACC
TACCTACACGTCTTACGCGTTAACCCACAAAACCCGTAAAAAATTCGCCAAAACCCAC
10 CCCCACAACCTAATTCTAAGGAGACCCACAGACAACGCAACACCCGAAACCAACGACGGA
AATAAAGCCCCGCATCCGCCAGACAAGCACAAATACCCCCCTCCACCGAAAATAGCGCC
CGCACTGCACCAACCACCCACACCCAAAACCCACCCGTCCCCACACAGGATCCATCCT
AACGAGCCGGAACAGCCCCGGCAACCCACGAGTGTATGTCTACTTGTGCCAGTAGAACC
CGGAAACACGGCCGTCAACCCAGCCCTCGTAAAAAACGAGAAAGACACTCTGAAATGCAA
15 CGAACACCATAAATAAGTCGCCACAGCGTACCACAGTACCCGGCAACCCGGTCAGCAA
CACCGTATTAGGCAGCATGCTACTGTACCCGCAAATGGAATAAACGTTCTCGCGACCGT
AAGTTGCTCTCTCGGAACACACTCCTAGTCACCTAGGAGTACAAAGACGGCAAAGCCAA
CACTAATTGCCCTTAAACACCCCAATGGACCCACACCTA

- 20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 847>:

GNMPI28TR gnm_847

AAATATAATCCGTTTAAACTGAAGAGGCCCGGTCCGTTCGTTAAGAAGAACCAGGAATAGA
CCGAAATCGAACTGAGAAATAGCCCGTTGAGTGACAAAGAAGTGTGGGTAGGGCGTCCA
CTCCCGTTTCGTTAACAATGGCACAACCTGGGTGCCACTATTGGTCCCCATTGGCACAAT
25 ACTAGATCCCCCGTTGATCCGGGCTCTTCGCTTTCCTTGGTGTGGTGGTGTAAAGTTCAT
GCACATTACCGTAATCTAAACGGTAAAGTGACACATACTAGTTTTAGTAGGACCGCGT
CTTGACGTGGACCCATTCAAACTAGTAGTTACTAGGGAGGTGGACATTGTTGAAAACC
AAAAATCTAGCCAAGAAGTTAAACATATACAGAAAGCAAAAAGAAAATAAAAAATTC
GTTGGGCAAAAAGAATAAGTAGGTCGTTAAAGTTTTGAAAGAAAACATAAAGTAATTAAT
30 TGAAGAAAAGTTTGCAAAATGTTAAGAAAGTACCATAAAAAACATTAAAAACTAAAC
GACCACTTGAAACTAAGTATACCAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 848>:

GNMPI29TR gnm_848

CCACGGCCCTCAACCTTAGCGACACCACTAATCCCACCTAGACGGGCACCCTAAAACTAA
TCCGTCGCACTCGCTACACCAATTCTACCGCCCCCACATACGGGCATCCCCCTCCA
CCCAACCTACTCGAAGAGCTGGCAGCCCCCGGCACCCGGCAACTTTAATTACAACGCCC
ACCGGATCGCTCGAACGGCCCACTCACAACTCAGTGCCTACAGCCAGGGGAAAACGCA
ATCTTATGCCTTAACCGAAGAAAAGACCGCTCGAAAATCAAACCCAACCTAGACGATT
40 CCAGACCTGGACCTAAGCGTAATATCAGCGCACCAGCGCGCGGAATAGACCTAAGAACA
AAATATCCGGTGCCCTGCAGTTAAGCGCCCCCTCCGGCTGGCGGCCTAATCTACTCCGAA
TTTCGTGCACTCTTTGACTATCGACGCCATGGAAACTGGCCCCCGGGGAAGCACCGTT
GGACGAGCTTGCCGCGCCTCTACCTAGTTTCCCTCTTAAAGAACGGCCAGGGTGATAAA
AACAAGCTCTTGTCCCTAACGTCCCGGCCACCCGGCGCGCGGCGAGAATCTCCCGTTGC
45 CACTTACGGCAACGGCGCGTATTTGCTCCCACGCGTTCCCCAACG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 849>:

GNMPI31TR gnm_849

5 GCGTGGnCCCCACGGTACCCACCGAAGGTGCGCCTGACCCGAGCGAAAAACGCGCCAG
CCCCACCCTAGTTCCCGTTCGACCCTACTAGAAATGGCAACCCATTTGGGTAGCACAGTT
GTGTGGACCATTGGTACAGAGCTTGAATGTTAACACCCCGACCGAGTAGACCGGTCGT
GGTAAAGGCAATGCCAATACCCACGGCCTTAGTTAAGTACGGTACTAATCTGGGTAAA
GTTCCGAAGTGCAGCTATCCTCCACCCTCCGAGCCGCAATTGCAGTGCCCGTTCGCATT
GGCCATGTTGACCCTGTTGCAGAGGCCCTGGCTGGGGCACAAATGGAAAAATAGGCCGTT
10 GGCAATGCCGTCGGCACCACCTAAACGGACGTTTATCTGGCTGGGACCCCTCCCGTCTCT
AATGATCCCTGTTTCGTACTATGTTTAAATGAATTGTGTAGACAGAGCCCCCGGGGACGAC
CCGTTTGACGGTGGATAACCTTATGTTGTGACTGGCGCCCGTTGTCAATTGTACAAAC
ACAAGGGCCGCCCCCGGACTGGGGTGGCAGTGGACACCGAAGTGCCTGACCCGGCAGGT
AG

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 850>:

GNMPI32TR gnm_850

20 TTGCCTTTGTTGCGTGTGCCTGTTTGCTTGTGTTTGTATCTGTGCCCCTTCGACCTCGTC
GGGCACCGTTAAAAAACGGCGGTTCGGTGGGGACGTCGGTGGAAAAATCGGGCGCTGTTTGC
ACCCGAAAACTTTGTTTAACTGATGGTTCGGGGTGCACCGGGTGGTGCATGGTCACAT
TCCTTAATCTCCCCAGATCCCCTTGGACACCTTGACCCGGCCACTGGTACGGTGACGTC
GTCGGGTCCCAGGTCGTTTAAAAACCCTCTTGTATTGTCTGCGTCCCAAATACTTGTGT
ACCCCGGGATAAACGGTATACTAGTTCCTTATTTCGGACATGTGATCATACTCATACTTT
TCCGGGTGGTAGTAAAAAAGGTCCCCATGGATATAGTCTAATTCGACGGTGGTAACGGC
25 GTCTCTAGGTACTCGGTATGGTCATGGTCGGAATCCTTACCCGGGGTGTGTCGTATGG
TATGGTATCGGCGTCGCTAATATGGGTGATTGTACCCCTGGATGTGATGTGTACGTTG
CTCGAAACATCCTGTGTTGTCTCTACGGTCTACCATTCTTACCCTGCTCGTTCCAGTCC
CGCTGCTCCTAACATTGTAACTTTGATGACGCTAGTGTAGCCCCTAGCGTTTCTCCCGT
TAACGTTAATGGTCGGAACGTGTT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 851>:

GNMPI33TR gnm_851

35 GTGCAGTTCCTGACACGCATGGTACTACGCCTAATAATTACTTGGATCCGTGTTGTA
CGATTGACCATGGTCTGCTGGATACTTGCCCTGTAAAGATCCTTTGACCCCTGGTCACG
CGGAAACGTGCCATGATGAAGAGTAAAAATGTGCGACCCATTAATTCGCCATTACCGAGT
TGTGTGAGACTATGTTGTGCACTGCTTCCGAGGAGAATCATGGCGGTTAACAAACCAAGA
AATCATATTACTAATCCTGGTTTGTAAATTTTCGTGGTGTATGGTGCACCGTGCACGACC
CCGGAGTCGGATGGTGAATAAACTGCTTGCCTTGATTGTACACTGGTTCTCCGTATTGA
GGCATTGAAAAATCGGTGGAAATTAAATTCACCTCGTAAGTTTCGTTTCACACGGATTG
40 TCCGGATCACGCCCTTACGACGGCTAACGAGTAGGTGCACCGCCCGGTAGCAGAAAAATC
CGCTGGCACTGACGCGTTTACTTGTGTTTAAACATACnTGTGCGACGCCCGTTGAAGCAAT
GTGTACTTCTAACTATCCGACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 852>:

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GNMPI34TR gnm_852

TCCACTCGGATAAATACTTGTACTACTTCTATGTGTATTAGTTACTTTGTTAATACTGGTC
TCGTTGTGTGTGTGACGAAAATAACGGGCTCGTATAAATCGATTACTGCTGTTTTAACT
CGACGGTAATGTTGACGATGGAATAATTTGTTTGCGCCGATTGGAGTACTTCTAACTGC
5 CCAAACCATTTGAAGAAAGTCCTACTTCTGTCTTGGTGTGGTAGATGCCCTGGAACACG
TTATTACCGTTGTCTCCCGGATGAAGTTTCCGTTGATATTACTGTTTCGTGTTTCGA
TTAGTTGATGATGTGAAACCATCGTGTGGCGTAAATTTGTGTGACCCGGCACTTGAAC
CATCGTAGATTGTAAATTGAGGTGAGAAAGCGGTATCGGCCCTGGTAATGAGATCCCTG
GTCCGAGTACTGAAGAAGCTTAAGTTCGTAATTGATCGACGATTACTAATGGTAACTTTG
10 ATCACCCTCTGTCTAATTCTGTTAAGTTGCGTAAGCTGCGCGTCATGAACTCCTAGTT
AAATTGGCCTGTTTACGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 853>:

GNMPI35TR gnm_853

15 CTGGCCTTTGCCTGTTGCGGTGGGGGTGCCCGATGATGATGTGCCCCCGTCGCCCCGGT
GCGTGGCACGTAGGAGCGTTGTCTACTCCGTGCCTGTTGATGAGTTGGCGGAAGCAGG
CTACCCTCCCCCAATGGTGGTATCCCCGTGGTGCCTGGGACATACGGGGCTGAGACAGA
TGACGCTGGGCCCCGTTCCGCGCCCGGATAAGCGTGGGTACCCGCCCTGGTGGTGCCGTTGA
AACGGAGGCCGACGCGTGTGGTGGCGCCCCGTGCCCTGGGACCGAGGAGGGTGTGGTGGA
20 CGTTGCTCGAAAGTAGGTAGGTGATGGTGGGACGCCGTCTGAAGGTGGCAATGGTTAGTT
TGAGTGAGGTGAGGATGAAGTCGCTGTGTTTAACTTCGTGGCCGTGCCTTAAATGGCGG
GGCGTGTGGCGCGGCCGATGGTCCCGGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 854>:

GNMPI36TR gnm_854

CTGGCCTTCGTAGCGTTAACTTAAAGTTCGCGTGTGAGATTGTTGGCCGTGGTAGAAT
TGGTACTGTGGGCCCCGTAGGGAACGGGCAACTGCTGAAAACAATTGGTAGGCCGTTGTAA
GCTCGCCCTACTATGTTGAAATTGAGTACACTGATAATGAGGCCGTGCGAGTTGAAGTCG
TCGTTGTGCCTGTACAAACTAGCCCTTTGCCGTTGGTCTGCGGAACCCCTTATAACG
30 CCCCCTACCCGAGAGGGGTGAGGAATCGAGGCCCCCGACGCCGATGATGCCGTTAGCC
CCCGTTACGTAATTATCAAATGGCTCGTTGTGTAAGAAAGGTGGGAAGTCGGACGATA
CTGTATATCCTGGTGTGAGGCGCGGTATCGACGGGGCTGCGCATGCTGGCAACGATGGGG
ACGTTGAATCTCGTCCCGATCCCCCTAAAACTCCCAAGTTCCTCCTTAAGTTCATGTTG
TGACAAGAACGGACGGAGGAATGGCCCGTTCCGCTGAAAGAGGTCCCAAAGACACAGGGA
35 ACATTGAGCCCCTGGGCAATCCTGATGCAACGTGTGTAGGCCCGAGGGCGGAACCTAAG
TCCCTTAAATGCCGACGTTGTTGAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 855>:

GNMPI37TR gnm_855

40 TATTTAGATACAATGGCTGTGCCCTACTCCAAGTAGTATTATGGTGTATACAATAAGGT
CATGTTCTGTTAGTACCCGGCCGGCTGACGTCTGAATAAAGGTTAGAGTGAGCCGACGTTG
TTTAATGGGCTGGCTATGTTTGCAGAGGAAGCAGTTTTATAACGTTATGGTGAAGAAG
GCTGTAAGTAGGCCGGTGGGACGGAGCTGGCGCCGTTGAAAGGCCCGCAGAAGACGTCG
TTTAAGCTCCGAATACAAATGCGTGATGTGTGCATTGGTACTGATGGTGGCTAGGACG
45 AATAAGGTCCTAAATAATAGGGTGAAGCGACATTAGAATGTTACTACTGTTCTGTTTGA

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ACTAGGTGGTCTACAACGCGTGTACATTGATCGTGAGGGCGGGTGTATTGCTGGTATGG
GAAAGGACGGCGCCCCCTGTTGATCCTCCCAGTAGCGCGTAATAGGGCCGTGGTACTGATA
GGGAACCGTAGTCCGGCGGCAACTATCCTGGTGGTGGCACCGGTAC

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 856>:

GNMPI38TR gnm_856

ACTGAACTTAGTTTGTAGGTGATGTGGCAAGTACGGTGTATAGCTCTTCGTACACTTAGT
GTGCATAGACATGGATGGACCCTCCTAACTGGTAAATCGCGGCAACTGGTAAGTTACTGG
ACGACCCTCCTTGAACATTGATGTAGCAAAGTCTGGCGTGGCCGTAGGCAGAAAGGACC
10 ATTGTTCTTGCCGTTGTACCGTCTGGGTAAAGACCGTGGATGGTCCCAGGTAGGGTGGTG
GTGGTAAATGTTAGTCCCCCTTTGCACGTCCAAAGGCGTGGCCCGACGACCGAGCTTGATA
GTGGCAAGCCGTACGAAAAAACTGGCAAGACGAACACAGATTGCCACCACAGTTCAATC
GTCCCTCCAAAAATATGGATAAAAAATCGTATTCTTGATTGTAAAAACGTTGCTCGAAGGC
GTAGCCCTTGCCCGCTTGGTGGCCGTTGCTGGGTAGTTGGGTGGCCCAACTTATCCTGTT
15 TGTGCACCGCCTGGTAGCTAGTAGATCGCTGCAACTGGTAATGCCCGTTGGCCCGAGCCC
GAAGAATTAGTTCGTATTGCAAGGACTGTGCGCCGTAGCCCTTGAGAGTGTCCGGTAAACT
CCTGCCGATGGTAATGATCCTGTTCTGTAACCTGGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 857>:

20 **GNMPI39TR gnm_857**

TCTGGCCTTTGGTGGCGGGTACTACTAACCTGCTGAAACTGCGTAACCTGCGGGTGGTGG
CTGTTACCCGGATGCCGCCCCCTGATGAGCATCCTGGTGGCGTGGCTGACGAGCCTGGGGG
TAACTAGTGGTCTGCTATTTGCGATGCCTATAATAACTAAACGTGGTGGTAGTCCTAGTG
TGATAGAGGTCTGGTAAGGTGTGCTGCGTTGTCCCTGCGTTGGCCCGAAGCTACGATGA
25 TCCTGACATTGCGTGTTGATAGGTGCTCGAACACTGGGACGGCTGGCGGTAATGATGA
TGTGTGTGGTCCCATCCCCCGTTGTTGCGCTGGTAATGTGTATGATTACTGGCCCGTTGC
GGACGCTTGTTAAGGTCCCCCTGGGTAGGTGTGATGAACCTAGTTGTGTTGGAACATAA
TGATGAACCTGGCTACGTCCCGAGCCTTCTCCTGTCTAATGTCTGTGCTCCTGCCCTTAG
TACACAGGGAACGTTGCTCCCAACTGGACAGGTAAGTCTGTTGATGTTCTTATAACCT
30 TCGCCCGCTTCGACGACACCTTAGTTCGTTCCCGGCAATGGGGTAGATGAGGACGCTCAA
GAACCCCCCCTTACAGGGCCGTCCTGGGCCCGACGGCCTAACTAACTGGACGTTTCTC
CTAACACCCTAGATGGTCACTACCCACCCTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 858>:

35 **GNMPI40TR gnm_858**

CTAGTCTGCTTCGCCCTACACATCGTATACTGCATTTGATGTGTTTCGCTGAAAAACAA
GTGCAGGGCCCGCAAGCCGCTCGACGTTGGACACGTGGTAGTCCGTTGCTGCCAACTAAT
CGGCTGGACATACTTCGTTTGATAGATCCAACCTTTGCATACAAAACCTGTGTACTGCTCTC
CCTTGAACGATGAATCTGACCGTGGGTCTGCTTTGACGAAATACCCCACTGATTTGGATG
40 TCTAAGTTGCACCTCCTTGAAAGTCTTTGCCGTAATCTGCGTACAGTGGGTGACGTAGCT
CGCCCGAGGAACCCCAAAACACTTCGTCTTCGTGCTCGGTCTACCACTCGTATTAGTTGC
CTCCCTTATCCGTTGTTTGGCTTAAACATATCGGCAGGGCCAATTTGGGCTCTAAACAC
CCTCCACTTGTATCTAAGTTCCTTATAGGTGCAAAATATACCACTAGTACTAGTAGGGTA
AATGGTAGGGAAATAACTAGGGCTACAGATCGTAGGCCGTTGAGCTTGCTTGAGTGTACT
45 AGTAAATGGTAATGGTAGATACTAGTATGTTTTATACAATTGnTCGTTATTGCGGTGTG
TCTAAGTTCCCGCTTTGAGAGGCAACACCGCCTA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 859>:

GNMPI41TR gnm_859

5 GCTAACGTCCGACCCCTGGCCCTATCTACACCCCTTCCCGCTGGCAAGGGACAAGGAC
GTGGCGTGGGTCAAACTTGTATCCGTTTGTACACACAGCGGACCAATAAAATTAGCAT
GGTGCCGTTCTGTTCCAGTCTAAAGAGAATGACCTCTCAAGGCGTCGAAGTATTAAGCGA
GCTGGCCTTGCATCACCCGCATCGCTCGTGGTCCTGTTGCTCCGCTTCGACCCCGCCAA
CTTATCACAAAAACAACAAAGAACTACAAATGAAACCCACCACTATACACCCCGGAAAA
AACACTACCCGTGCGACGCCCCCAAGTAGGCACCCATCACCTCCCATAGAACTGGGACC
10 CCACTAAACGGGCCTGGTAGCTGGTGGATAATTGTCTAAAAACACCCCGTTGGATATT
AAGGGCCCGCTACATCGTTGAATTCGTTGGCCCGTACTTCGACCGGGCGCACTGTTCC
CCGCTTCCCACAACGTTGTTATCCACCCGTTATCCCTTTGACGAAGTTGCCCGTTGAA
AACACTTTTTATAGTTCCTGTGGTAATCGTCGTGATGAA

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 860>:

GNMPI42TR gnm_860

CCCATTGGAACGAAGTGCATTAAAACCGGCATCCAACCTCGACCCCTTACTGTCGTTTAC
AGGACATCTTAAACTAATAATAGGACCCTTCTCCGCTTCCCAGAAACAATCGGACAAG
TATTCGAACGCACCTTGCCCTAATAACCTCCGAGGACCAACGCCCCGACCCAAAGCATCTC
20 CATTCCTAACGCAGCCCTCACGCTTCGAAACACGCCCTTCCGAGTCTTACTACGAACCC
CAGCTTTAACAGACCCGTCCTCAAACTAATACCGTGGGCCCCGAAATACCCTCTTACTCA
TAGATCGAGACAACCTCGAAGTAGCGCCACGTCCGCGAGGACTCGAGAACTTTTATCAA
TTGTAGTTCTTTTGGCCCCGTGTTCCCGCTAGGCCCCCGATCCCGGTAAATGGTAGGA
TGCCGATTAGGGTCTGATGGCCCTGGTGGTACCGGGGCCCTTCGTACTTATCGGCTAA
25 TGGTCCTGTTTGTGTCGACAAAGGGCCGAGTGTGTTGGTGGTGTGTTGCCGACAAATC
TTACGTCGCCGTTTTAATGGCTGAGTCCGGTACCGCTCTGAATACCCCTCGCCGGTCC
TACTGGTGTGGCTGGAGAAACGTCGTTGAGGCCGTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 861>:

GNMPI43TR gnm_861

AACTAGGATGGACGGCCTACATGGTACGGTCCACCTTGCCCTTTAAACCCTGCGTGGAAC
GAAATCTCTGTTCTGCACCGTTAAAGTACCGCGCTTAACCTTCGAAGTCGTTTGAATGA
AC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 862>:

GNMPI44TR gnm_862

CCGTGTTTAGCAGCGGGCGAGGCAGAAAGGTCGTTGTGGCCGCTGAGCCTGTTGGTCCCA
TGCCCAAGTGACCCGCTGCCTAATAGTAGCCCCCTGGCGGTGCTACTTAAAGCGCTGGTG
40 AGGATCCGGGTCCCGGTACCGTTGGCCCCCGTGTAAACGCCTAAATGACCTGGTGAGC
GTGAGGAACCTGTTTAGTGAGCTTTAGTGTAACGGCCCCCTCCTGAGGAACCGCCGAATA
CGCCCTGGCGTAGAATTGCTTGTGTTGGCCCTAAATACATTGTTGTTGCCTACTAACGGA
ATGACAGATAGTACCCCTGTGTCCGCTTGAGCCTTAAACCGGGAATAAGCTGGCTAGG
CAGCTGTGTAAGATACCATTGGCCATGGAGACGGCGCTCCTGTTGCCCCCTAGATGATT

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AAGTCGAATCCGGTGGTCTCTAGGAGTGAGGATGTGGACGCTGAGGTTACCGGCACTT
AGCCTGGTAAGGCAGGTCCCAATTCGGTGAGTAGGTCTCCGCTGCGTGGATGGCCCCTG
CTGAGTTAGAATATGGTAGGTGCGCC

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 863>:

GNMPI45TR gnm_863

TACCCCGCCAATTATCACACCCTAAACCTTTCTCTCCCTACTACCACCCAAACGTCCT
ACCAACACAACCAATAAAACCTTACCCTTACATATTGACGCAGAAGAACAATAAACCAAC
TCACCCACAAATCTTGACCTCCTTCTACTGGGCCACATCTACTAGAAACATCTATCGAAA
10 CACACGTTCCCCATACGGAACACTATCAGATAGCCGAAAAGTAACTAGCTAGCCTTCGCC
AAAAATGTGCGCAGAACCCCTTGTCCCACTCTAACTGGATATGGCCCTAACACGCTCCTTT
TCCTAAACATTAACTGCTAAATTCGGCTTAGTTGACCAATTCACACTTCGATTGCCGTTG
GTGTGATCGCTGGCCCTGGTGTGATGCGGTGCCCTTTGCACCCGGCTGGCGAAAATGGCG
GCGTGTGCACGCGCCCCACCTCGCACTGTGACGTGCGCCACTGGTACTTTGACGACCCC
15 GGCGGAAAACGCTACTGGATGGTGTAAAGGTGCGAATGTGTGCGACGTGCCTGGTGGTTT
GACGAATGGTAAATTTACCGTTAAACCCGGAAATCGGCTGGTTCGGACGGGTGCTCTGGT
GTGCCTGGTACTACGGTCCACCATACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 864>:

20 **GNMPI46TR gnm_864**

CCCCGAAAATTGACCCTTTCGTAAAGTCGTCGCTCGTTGCTGAAATGTGCCGAAGCATG
GCGTGGTGTAAATTGAATGGGGTTCGCACCTGATAAGTCGGGTAATAGCGTGGTGACCTAG
GAAACGAATTGCGAGGCAGGGGTTCGTGGCGAAACGCGTTCTCTTTGCATCCCCGATGGGT
GAGGTGGGCTGTTGCCCGAAATGGCGGTATGTCACCCTTACAAAAATGGCATGTTGCCG
25 GCTAGTTTGGTAAGGGCTGAACACTCGACTGACACGTTGACGGAATCGCCGTAGAAGGTG
GAGGGTGGTGCCCCGCACGCTGGTGATACTGTTTAGCATAGTTGTAATACTTAAGTTGGC
ACCGTTCCCAACCGCTGGAAAGGTGGAATATTGTTGTGCTAGGGCGGCTGTAAGGTAGT
AGGGTGGTAGGCCTAGATGGTACCGTTCGTGAGGAAAAGTCGGTGGAAATCGTCGCTGGAA
CTGGCTGCTTGACCTTGTGTGTCGTCACGTAGTACGAAGATACCTTTCCTTCGACATAG
30 GGGACCGTTTCGTAACGCGGTGGAAAGTTAAAGACCGTGTTTCGTTTACCTAGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 865>:

GNMPI48TR gnm_865

CTGGCATTGCTGCGGTCCCCGTGGGCCCCACTGGCAACGCCCCCTAGATGGTTCGCTTA
35 GACACCTTGCTAAAAATTGTGTTACCTGTTGCTCGAAAATGTTATACTGCCTAGTTGTC
GTAATCGTGTGTGTAGGCCCTTAGTAGTTTCGTCCCGGTGCGCTAAACTTCCGTGGCACC
TGCAATTTTCGACCTCGTAACTGGTGACCAATCTTGTCCTTAATTGGCCCCCTTGACCGGC
AGTCGTTTGATCGCCTGACCCCCCTACACCGGCTGAGTATGACGAAACCTGGTGCCCTAG
TGACGGGCCCCGGCCCTGAGGCCTACGGTCCACTCTCCGCGCTACTACTCCGAAAAAACC
40 ACAGCCACTTAGTAAGCGCCGTAAAAGTAACCCGATAGCCCTCCGCTCCGCGGCGCCGG
TCTGGTAAACGTTCTACCAGACAACGCAGAACGATCCGCAAAGCCAACAACATGCCGAAA
ACAGCCCTGCTCGTCGCTCCTGGGTAAACACTAGATTCCCGTCCACAGTTCAAAAAACC
AGTCGCCCCCTTAGATAGGCCCTCTAGTAATACAAAACGAAATTGCCTCATTTCGTCGACC
TCTGACAGTCCCCCTAACAACTCTCCCCAAGCGAAGCGACACGAAAAATCCCCACCGGA
45 ACTATTCGCCCCCTAAGAACTAA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 866>:

GNMPI49TR gnm_866

5 GGGTCCCCGCCTCCCACGATAATCGTTACTCGCTGGGTCTTGAGCTGCTTCCGATGCTTG
AAGAGCCGTACCATGGCGCCGCTAGAACCCCGAATGGGAGATTCCAGCTTCGTGCAA
CTCGGGGTACATCCTAGACAAGTAAGGGAAAATTCATAGTAGTCTGCTAGACATCTGCAG
AATCCTAAGTACCTGCGTCCGATCCGTCAATATCTTCTTCGCGTTCCTACTACTGGCTG
CTGCGTGGGCAGCTTGCTTCTCTCTGGCACTTACTGGGTAAAACCGTCTTCTAGATCTG
CATAATCCGTACTATTAAATTCAGGAATATCCGAGTCAATTACTTGGCAGTCAAGCTTAC
10 TTAATTCCTATGGTCGATCCTCCGTAGCGATATGCTTATCTAAATTCTTCTCGTCAGGCT
ATTGGTTTACTGGGGCTTCCCCTGCAGGCTTCTCTCAGGGGCGGGGCTTCAATCTTGG
CTTCTGCAAAGATCTCTAAAGAGTCTTAATTTATATTAAATTTAGTATCCTCACTACTCC
TACCCTAGTAGTCCCAGCTCCCTCTAACCAGTCACTCTCAATTAAAATCTAGCATTAC

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 867>:

GNMPI50TR gnm_867

TCCTTAATGCGTTCTTCGAGTTACTAGAAGTGCCCAAATTCCTAAGAATCCTAAACCGA
CTCGAGTTGCAGGCAAATTTCTTTATATGGGCTTCTACTTCACAGATAGGCTTCTTCAGC
TTCTTAAGATCCCTCTCTTCTGTAGTTTGCTTCAGTTCTTCATGATCCTCACTCGCTTCA
20 AACGTTTGGGCGCTCAAGTGGTTCTATCCCTGGGCAAAATAGCCCCAAAATCTAAGCTTC
GTGCAACTAGTGCCTCCTCCTGTGTCTTGCAACAGCAAAAATCCCAAATAGGCTTTTGT
TAAGTCCGGAAGAACCTGTCAAATAAATTCAGGTGATTCTTCAAATTCAGGAGCAA
AAATAAAATTAACGTGCCATTGTTTTATTTCTTGGGGTTATGCCTGCTGGCTTCTCGA
TTGCTTTGGGAGCGCGAGACTCTCAAACCTCCTCCTCAGAGCTGCTAAGCCTATATCTC
25 TCGTCCCTCGGTCGTTGGGGTTGCTGTGCGAGGGTCTTGTGCTGCCCTAGGGCCCCCTAC
TCAGATTCTTCGGGGGCTTCGGGTCGTTAACCTGCCCTACCTAGATCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 868>:

GNMPI51TR gnm_868

30 TCGGCTTAAATATCTTCTTGGTCGCGGTCTCCTCGGTTTAGGGGTGATATTTTGGCCCT
CCATGGTTTCTGGCATCCTAATTCTAAACTCCTTGCTGGCGGTTTGTATGCGTTCTTCC
GGTCCATCCTCGGGTTTGGGTTGCGTTTGAGGAGGGTAATTGGCTTTTTAAGTGTGAGCT
TATCGGTCTCTTTACTCGCAGTCTCAATCTCCTCTCCGTGGGCATCCCTACCGATCTGA
TTGCTCCTTCCAGGAGCTTCCTTACGTTTATTGCATTGCCTGCTTCTATCATAACAAAAC
35 TCCTACCAAGAATTCTGAGTACCTCAAAGCCTACTAGTCTATCATAGGGTTCATATCTG
GTACCTCCCGCGTCAGGGTAATTAACGTGTTCATACTCCTGATGATTCTCATGGGGATCC
TAATAAACAAAGTCTTCTAATCGTAATTGTAATCTTTCGCGAGCCTGCCAGGAGCCTCC
TACCTCCTCCCTCCTACTTGCAAGCTTCTTGGGTCCGGTGCAAAGATTACATCTGCCCT
AAATTAAACTCCTGATAAACATAAATTCGAGCTTGTAGCTTCTTGGGTCCGTACACGC
40 CTCGAAATAATTCCTACCCTCTAAAGTCTCGCGTCTATAAGGGATTTCAGGTACTTA
TCATAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 869>:

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GNMPI52TR gnm_869

5 TGGAACTCGTCCATAGGGTTCTCCTCCTGCGCTTCGTGCAAATCTTCTCCCCAGCT
CCTGCTCGGGGTTAGTCAGAACTAGAGGGTTCCATCTCGGTCCCCCTCCGGGGTTTCCC
TCCTTCTTCAGGGCGGGCTCTGGAGAGACGCCAGGAATAAAAAGTACCATAACCTCATCA
10 AGTCGGTGTGGGCACTGAACCTCACCTAATCTTCGATGCCGGGGGCGGAAGTTATGAGAA
AAAATATGCTACTAAAGTCGGGAAAAATAACTCGTTGGGGGTCCGTCCCTCCAAGATCCT
ACCCGTCCGGGTTACTACCTTGGGGGCTTGGCTTCGGGTGAGGGCTCTTAGCAGGGCCCT
ATGTCGGATCTTTCGCTCTGTTGCTAATAGTCTCCTCCCGATCTTCGTCCGTACCTCTAC
15 CCTCGGTAGTAGCAAGGTCAATCCTAAAGTGGTCTACTCATCCGGGGCTCGGTATCCT
GGTATGTCCGGCCTGGGCTAGGAACCTCACCGACGTGCGCCCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 870>:

GNMPI53TR gnm_870

15 GCCCTCAAACCTATCCGAAAACAAGTCTTGAGGGCCCTACTGGTCTTAGGGATTAGAGTA
ACTGTCCTAATCCCTCTCGTCGTAAACTTAACGTTTTCTTTGGATSCCGAGCGCTCTA
ATAGGATATTCTTCATGGCCCATCAAATTCGTGAGAGTACTGCCTTCCAAAATTAATTCA
TGTTCCGGCGGTTCCGGCAGGGAACCCCAAGCTAAGCAATTGGAAGAAATGCAAAAATAAAT
20 GCGGTTCTTCGATCCCTACTCGCTCCGCAGGCTTCGATTGAGAGGGCCTGGGGCCGCT
GCTGGTGCAGGTTCCGTCTTAGTCGCTGCAAAAGTACTGGGCTTCAATAACAAAGTCTTA
GTTTCTTCGGGATGTTGGGAATCATCAGTCAGCACAGGGCCCGTCGTGCAAGAGGCTGC
GTACTGATTAAGGAGCTACATAGTGGTTAAAAGGGGGCCACGATCTGTAAGCTCGGTC
CTCATCCGAAAATACTAAGAGTGAGTCAGCATGGAGGCCGTGGTAAGGAACATGCTCT
GCATGATCATCCGAAGGGCGTGCTGCCGTCCGGAGTTCATTC

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 871>:

GNMPI54TR gnm_871

30 TAAACTTGCGAAATACTTTCTCTCTTTCAGCCGGCTTAGTCGGCTTCTACTAAACGCGT
TATTAAGTCATTAGTTGTCAAGTCTGCCTCCATAAACGTCATTAATGTAGTCGTCTCC
TCCGAGTCTAAATATTGGTTGCGGCCCTCAACCTAACTTAGTCCTAAGTGGGCCTCCA
ATATCAGGGCCGCCAACAGTTAAAAAGGAGCCTCAAAAGCCTCCTAAAACCGTGCGCT
TCTGCTTCATTACGCGTCGTGCGCTTAAACTTGGGCTTCTTCAGCTCCAACCTGCGCCGCA
AACATAGGCTTCTTCAGCTCCAACCTGCGCCGCAACATAGGCTTCATCGGCTTCAACATC
ACAGCAGGGGCCATAGTCCGTTCAAAGTTCTGCTTCTCTGGCTTCAGGGCTGGAACTTC
35 TTCCGATCCGTGCGGCCAATCCCTTCCGTCCCTCGCGTCACGGGCATTAAGGTCTACCTC
CGATCAAACCTTGGCTTCAACTTAGGCTTTAAACTAACTCGGTGTGAGGCTCCCTCCTC
CTCATATCTGCCTCCTCAGGCTTAAAGGTCCTCGGATTCAATAAAGTCCTGATAGTGGTA
TTCCTCCTCCTCTCGGTTGGCACGGTGG

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 872>:

GNMPI56TR gnm_872

45 TCCGGTCTGTATAAAGAAAACCTCCGGGTAGCCTCACGATCTCCCTCAGGGTCATCTCTTC
TTCCGGTCTTCTTCCATACTCATCTCTCCCTGCTCCTCGAACGCGTTCAGAGGCACCGT
CCTCACTACGGGGTTCAGGGTTTGGCTCAGGGCAGGGGGAGTGGGCCGGTGCAGGGTTAA
CAGCCTCTCCAGCGGGGCGGTATCCGTAGGGGCTCCAAGAGTCACCTGGTTGCTCCTAC

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CGACTTCATATTCACCTCCCTCTCGGTCGCGAGCCCTACCGCCTCTAAGGTGGCGTTCGT
GACCCGGATCTGCTTGCTCGTCCTCCTCAGCACGTTCTAAGTAGCGACAACCTGCCGCCG
GGGATTTCTATTTCGGCCCTTCTACTACGTTCTCAGCATGGTCTTCTGGGTGAGGGTCACCCA
CAACTGGGGAATCATGGCCTCGGGGGGCAATGGGGGGCTACCGGGGCAATAATAACCTC
5 CTGCATCGGGCTATGTAGAAAGAGTGTGGTAAGAGTGGTCCGTCCTAGAGCTTCGTTCAA
TTCCCCGGGAGAGGGTACATCCTAGGGGCCAGGAGGTCCAGGGGGCTCGATGTCAACCTG
CCAGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 873>:

10 **GNMPI58TR gnm_873**

AGGCCTCTCnAAAnAAAnAAAGTTGTCTGGGTCCTTCTACTAGTAATTACTTGCTTTTCTGT
CATAGTTCTCGTAATATGGGCAAACCTAAATCTCAGAAACGCTGCTTCTGCGGCTAACTT
CAAACGCTTCAGCTACACCTAATCTTGGAGGTCTTGGCCCTAGTTCTTGCAAAAATAAA
AGTCTCTGGAATAAAATATCAATGCGGGGGACATCCTATATGCCAACGTTAACATCAACCT
15 ACTTACTGCTGGCTTGGAGGCCGCCCTCTAAAATCACCTCAAAGTAGGCGTCAGGGTGCG
CTTCCGCTTCTCCGAAAATTGGCCTGCGTCCGCTCTAAAGCCTCAATAAACCTACAAGT
GATCTTGGTCAGAGTCTTCAAAAATCTTGGCTTAATTGTAAATTCTCGAGCATTTCTCTT
CCATGCATTAAAGAGTTATTTTCAATCTAGTCCTACTCAATATCAGCTTTCGAGTCTTTCA
TGCTTACCTAACTTCATTTCGCGCGGCCGCCATCTCTTTGCTGTTCCGGGCCCTATGGGA
20 TCTTCTAAGTTTCATTGTAAAGATTCTTAAGTTCnTCAAATTCGTCTTAATTGGGGCCAA
TACTAATATACTAGTTGTCAGCTTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 874>:

GNMPI59TR gnm_874

ATTATTCTCCTTCGATGCTTGAGTTTTGCTGCGTTAGCGGTAAACTTCGTTGCTGTCCAT
AAGCCTATACTTGTTGTTCAAGTTTCAATGTCAATATACTTGTAGGATTTCTAGTCAGGGTA
ATTGCGGGGCTTCGGGGCATCAATGCACTAGTTTTCAGGATACTATTGGAGCTTCTGATT
CTAATTCCTGCCTCTAACATAAGATTTCGCTGCAATGCGGCCAATGCAGGAATTCTTAAT
GCATTCAAAAACCGGGAAAAAGACACAACTAGGTCTGCTTCGTCGGCATCTTATTAGGA
30 GGTACATTTCGCTCTACTAAATACTCGTACCTTAGACAACGGCATCAACAACCATAAAGTA
CTCCGTAAATTATATTCACGAACCATACTCAGCTTTCGCCAGAAACAAAAATCCnTGTG
ATAAATGTCCGGATAAATAATAGATTCGATTTCAGCTACAACTGAGAGTCACAAATGCT
ATAGGATTTTTTC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 875>:

GNMPI60TR gnm_875

CTCCTCCTAACTTCTAAAAGTTTTCATACTTCTTGTAACCTTCCTCATTGTCGAGGTGGT
AATATTCTCCTCTATATTCTGATGTATATCGTCCATGTGATAGTCCTAATCCTCAAGGT
AGTTAGCTTTTTACTACTCTAAATTAGTAAATTCAAAAATGTGTTATATTCGGGGAT
40 CTTAAAAATGATTGTCTCTATAGATGGGGGGGATACAAGCACTTCTTTCTCTCTTCTC
TTCCAAGTCTCCTAAAAGCTTCTTGGAGGTTCTGCGGGTCCGTACTCAGCACAAATATCGT
CAAAGAACGTCCCAACCGGGGCGCCGCTAGGGTCCAGTCGGCAGCATCATCCCGATCTT
TAATACTCAAATTACTCACAAATATAGTCTTAGCTCCGCCGTCGTCGATCGCGTCAGCAT
CCTCGTCCCGGTACTCGGGTCCCTCCCCGAGCGCAAGGCTGGTCTGGTGGTCATCAT
45 GGGGCTTTTTCAGGGGCTCTAATGTGGGGCTTAGGGTCTCAGCTCCGTCCGGGTGGGCAT
CTCTTATCAATTTCAGCGGCTCTACTCGCTTACGGGCTTT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 876>:

GNMPI61TR gnm_876

5 AAATTCTGTTCTTCGTAGGTTTCTCTACCTCCCAAGTGACATAGGTAAGCTGAACCTAAG
GGAGTCCCAAGCATGCAAATGTAAAAATGACAGGTTTATGGGTCGCCCAAGCATCCAAG
CGACCGGTCGCCCAAGCATCCCAGCTACCGGGTTTCGAGCCAGCCAGGTCGTAGGTTTCAC
TACATCCCAGTGACATAGGTAAGCTGAACCTAAGGGAGTCCCAAGCATGCAAATGTAAAA
AATGACAGGTTTATGGGTCGCCCAAGCATCCCAGAGACCGGGTTAGCTCCATCTCGGTCC
AGGTATCATGCTCTCCAAAGCATCCCAGGGGCCGCGAGGTTTGAAAAAAGAAAAAATA
10 GGGCTAATGGGCGGAAAAAGAACTGCGCGGGGAATCAGCGCGGCAGAGGGAAGGTGAC
AAACCGACTGAGGGAAGACGGATTGGGGTGGAGGGAAAAAGACTGGGTGTAAAGGTTAGC
AATCTTGTAAGATCAGAGCTACAGCTGTGAGTCAAAGGAACGGGTAATAGGGCGGGAGG
AAATAGGGGAGGGGACTTAGGGGTAAGAGATTTTAAAGAG

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 877>:

GNMPI63TR gnm_877

GCCTAAAAACCAGCTCGGGCTACAGTTGGGCGTCCCGTCCCAACCCGCGGGGCTACTCCA
GGGGCTTGAGAAGCACACCCAATCTAAATTTTCGAGTCCTCCAGCTTCTTCAGATCCCGGG
GATAGGAGTCAGCTTCGTGCAAACCCCGGGGAGTTCCGTACCTAGATCCCTCTCAACTCC
20 ACCAGCCGCGTCTCTACCATCAGCACGGGCTTCGCAACAAAGCTCGCCAATTCCTCAGC
CGAAGCATCCCTAAAGTGGCTCCGGTCTTTAGGGTACGCTGGGTTTCAGGGTCATCATG
GTCGTGGTTCTCTTCGCGAGTAGTACTCGGGCCTAATCGGCCAATCCTCCATCCGGTT
CCATCCGTCCGAGACGCCTACATGCTTCTCTTCAGCACTACTAAGAAAGTCCCGCGCTCT
CTGGCGCTCCTAAAGCGCCTCATAGAATTCTTCAACCACAACCTCCAGAACCTAAAGGTC
25 CCCCTGGTCCCCGCGGCCCTCTCCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 878>:

GNMPI65TR gnm_878

CTTGGGGTTCATAGCTTGGTTCTTATAACTCTCGGCGACTTCTTGGTCATACAACTTCGT
30 TAATTGGGCCGGGGCGACTCGGTTCTATCCGGGGTAGTAGGCAGCTCCGCGGGCAAATCG
GCCGAGGCTAATTACTTCGTGTAAAGATCTATTTGGGCGGGAGTCTCTAATGCAGCTTA
TCTACTAGAAATATTTTCTTAGAATTAGATAAAGTATGCTTGCTTCTATTCTTGGGCTT
CGGCATGCAGCTCGCTGCCTTCCTTTGCTTCTTTAGTATCTTCAGGCTTACGTCCTGCTT
GGTAGGGGCTTCGATAAATATTGTCTTCTTCAGGGCTATCTTGGGCTCTTATTTGATCT
35 ACTTCTCTCTTTTCGAGAGGGGCGAGCTCATTCTTCTTCAGCAACTCTACTTATAAGGG
GGCATCCCATCCAGTCCTCCTAGATATCGTCGCTTTTGCGTCCTCCTATCTACTTTAA
TAAACGAGGGCTTCTAGAACTTGGGCCCTAGAGAAAATTCTGGTTCTTGTCCTCCAGACT
TAAATCTGCTATCTTTAACTAAAGTTCTTGGTCTAGGCTGGCACTAAGAAGGTCGATAC
GTTTGCTTCCGAAGGGGCGGGAATCTAAATCAATTCCAAGTTCTCGGGGGCTTCTAAG
40 TACGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 879>:

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GNMPI66TR gnm_879

ATATACGAGCATATAGAACTC3TAAGTCGCGCGGCTTTGCGGGGCCAACCAGGCAATT
GGTTAAAAGAACGGGGCAGGTGATTCTTTTACCCATACAGCGTTAACGCCTCCCCGGTA
ATTTCAGAACCAAGGGGAAGTAAAGACAAGTAACTTGCGGGAAAGGGGCGAAAGCTCCTA
5 GGGTACATCCTAGGGGAGCTTGGCTTTGTTAGCTTCGCAGCGGTGAGCCTAAAATTCTGG
TCCTCCGACCTCCGAACTCGGTCTCTCTCGTCTCACTGTGGTTAACTGCGGCTTCATC
AGGGTTAAAATCTCTCTCCCTAACATTCCACTCCGCGGTTAAAAATTCTCCATACCGGT
AAAATCCGTAGCTTGGTCCCAAGGTCCCCTACAGGCTTCTTCTACCTAACTACCATCCAG
10 CCGGTACATCCTAGCCTGGTGGTTGCGGTTTAAAGGTCGCTCCAAGCAAATGTGTCCTT
GTCGAGGCTTAACTAGGGCGTTAAGGTTGCAACTGCTTTCAATCAAGTCCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 880>:

GNMPI67TR gnm_880

GGGGCTGCTTTnTCGGGGTAGGGCCGGAACCTCAATTAGTTAGAGGGACAATAAATGGAAA
15 CGGTTTAGGGGGAGTAAAAATTGTGAAAGCAGGGGGAGCGGCCTTAGTGAAAGAAAATTG
AGTATTCGGGGGAAGAATTGGCCGGGTGGGGGATTAACAACATACATGCTTTGGCTGC
TCGTCCAACCTCGGCGTGGGGTGAAAGGGCACTTACTGCGGGGTAAAACCAGGAGGGGG
TAGCGAGCGATGTAGAGGTCCGATACTATTGGGAGGACCCAGAGAACCATCAGGGGGGGT
GAAAAATGGTTGGCATTGGGGCGCTTCTGGTTTGGGAGGACTCTCAGGTACTGTGCGGTT
20 CATCATAAGAGTAAGAATCCTGGGCCCTAGTCGGTTAAGTTAAGCGGGTCTCAAGAACCG
CCGTACCGGGCTCTGAAAGGAGAATTGGTCGTGGGTAAATCGTGCGGGGAAAGTGTGAAT
CGGCAGGGGGTTTCGGGGGAAGTTGGGGTGCTGATTGGAGAAAATTATGGGGCTACTACG
GATAATACTGGGAATTCTAGGAGGGGTGATTCTCGGGGCGCTCCGGGCGCTACTACGAGG
CATAGTGTTGTTTCGGATCTTGCTAATGCGATTGCTTCTAACGGGCCTAGACCTCCGAAG
25 G

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 881>:

GNMPI68TR gnm_881

CGATCTATCCTCCGAATCAAGTTCCTCACCTCTATCTGCGTGGCTCCTGGTACATCCGTG
30 AAGGGCCGTCGCTCAGGGCCTCCATGGTGGCCCTAGATCCCTTCAATCCCGCCTTCCAT
ACCGAAAACCTTCAGCATCCGGGGGGTGGTCTCACGGGGGTTAGGTCTGTTATAGTCCT
CTCGTCAGCACTTCTATTCCGGTCAGCCTCGTGGTTAGTAGCGTCAAACCTTCTTTGCA
GGCCTCGGCCTCCTGGGGGCCGTCCTCGGCGTTAGACTCACCGTCAGCGGTCTTAACACT
AGCCTCTCCGGCCCGGTGAGCTGCGTCAATCTCTTCTCTCGAGTACCCTTGTACCCGC
35 TCCTCCGGTAGCGCGTGGGCTTCATCTCTGTCTACAACGTTAATACATTCCGAAATGGC
TTCTTCTGGGCTTCTCTCTCCGACGCCAGGTATCCTCTCTGGTCTTTCGCTTGGGAAGT
CTCTTCACTCTCGACTCCAGGGGTAGCGTTCCAGATCCTCGCAACTCCGACGTCCAGGTC
GGCAGCGTCCCTCTACCAATGTAAGCTTCGGCCTCTCTACGTGCGCGACAAAGCTGGC
ACTGCCGTCCGCGCGTTAAGGTCC

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 882>:

GNMPI69TR gnm_882

AATACTCTCCTCTGGCTAAAAGAGCCCCAACACTGGCAGCTTCGGCCGCAATAGAGTAGG
AAACTTCTGTACCTACATCTGGCGTCTCTAAGATCTTACTCCGGCTCCAGAAGCCTGGG
45 AAAATCCGTACAACTGCCGTGCGGTCGCGGGGCTTCTGCGAAAATCTTATCTGGGT

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5 CCTCGCCGTCTCTATCTCCAGCACCCAAGAATCCGACGTCTTCGGCACGGGGGTCTGGGGT
AGAAGGCGAATCAAGTAAACCCGGCTTGAGTTATAGCCTCAGAAACCGTCTTAAAAGTAT
AAAGAGAGACATAAATTAATCAGCTTCGCTCAAGCGTCAACTTCAATATCCGTACCAG
CTTACTTAACCTTTCTAAAATAATCCTAAAGGTTACACAACGAATCATTCAAGGCATTAG
10 CTTCTCTATAAAGGTCAGCCGTCAACTCAGAAAGGTTGCTCTCGTTGCGGCCAGATCTGC
CGTCAGCGGCGTTCTCTCGCCTCCTCTAGGGCTACCTCCGACGACGGGGCGTCTTAAC
TTACTCGCTGCGTACTATGGTCGGCACTTCTGTTTATTAGGGAAGTCTTAAGTTGGCAGT
CAACAACGTCGGCATCATCGGCGGAAATCTTTCGAGTACTATTATCTTCTCGGTAGGCT
ACTAAATAGGTAAAA

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 883>:

GNMPI70TR gnm_883

15 CGCCTGGGATGGATTGGGTGACGTAGCAGGGAGTGTGGCCGGGGGGTCTTTAAAAGGA
CTATAACGTTTGGTGGCGGCACAAATGGGCCTAAAAGAGACTACAGCCGGGCGGCTGC
GGCGGGAGGGACAGGCCCCAGAGAGAGTTGCCGGCAAAATAATACGGGGCAGAGCTGAG
CCATGCGCGGCCCTGACCAAAAAAGGGAGCAAAACAACGAGTGCTAACATGCTTAGCG
CTACGTGGGGGGCGGCTTCCGTGGGGCGCGTGCAGCTTCGTGCAACTACGTGTGCTATC
ATTGGGCGCTCAAGAGGGCTGATATGGCCTAAGTTCGTTAGGGGGGTGTATCTGGAGCTG
20 CATTGAGATTTTCTTTCAGCTTTTATTGTTTCTTAAATTTATCAAACTTCGCCTGCTG
CTGCGGCAGCCTCGGGCTTGCCGGCGCCTTTCCTCGCGGGGTTTATCAGGGCGCCAAGTT
GCATCAATTGCTTCGTG

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 884>:

GNMPI71TR gnm_884

25 GGGGAAATAGAGGGAGGGGTCGGGAATACAAGAGAGTCAGGAGAGTACATCACTGGGCA
GGCTTCCCGGGGCTGAGGGGGGCGGCGAAGAAGTAAAGGCTATCGGCATGAGCGTGGGTG
TCCGAAAAAGAGAAATCCACTAGCGGGGGAAGTGGGTAGAATCGGTAGGAAGGTTGATCT
GAGTACCGACTTAACCCCACTGGGAAGGGTAAAACGGGTTAAGGGCCAATTAGGAACA
AAGTAAGAAGCCGATTACAGTTAAGCATAATAGAGTGGCCGAGCGTTAGTCCAGAACCAG
30 AGGGGGGGTGAATTGTGTCAGGAAAGTAGGTGTTAATGGTTAAGAGGTGGTAGTATTATA
TTTTCTGTAGTAGATTAGGGCTTAAGAAAGCAAGGGTTCGTAGATTTTGTAAATAACGAA
GAGGGTGGTGCAACGGGGGAATGTATATAGAAGATATAGAAGAAGGAAGTGTAAAGATC
AGGGACCGGGGAGTAAAGCGATTTCGGGTGGCGGGTGGGTGCGAAGCGGAGGTAGTCGA
CGAACCGGTGCGGCAAGAAGCGTGGGCTTTTCTTAAGCAGACGAATAAGGGGTTTGGG
35 GCTGGTTTAACTGGCGATGTTGAGGGTAGTAAATGTAGACATAGAGCGTCCAGAAC

35

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 885>:

GNMPI72TR gnm_885

40 CGTGCCAGGTTTCTTGCTCTCCAAGCATCCCGGGTAACAGGCTACGCGGCGTCCCAAGC
ATCCCGGGTAACAGGCTCCGCGGCGTCCCAAGCATCAAGTTAGTTAGATCCAAATTGCTA
TTATCGTAGGTTTATCCAACGCCCAAGTGACAAGTTTCCCGGGTACGTAGGGTTCAGAC
AGGTTTCTTCTCGTCCCCCGTGACAGGTTTCTTGCTCTCCAAGCATCCCGGGTCACAGG
CTCCGCGGCGTCCAATCTAATGCAATTTCGTAGGTTTATCATACGCCCAAGTGACAAGTGT
CCCCCGGTACGTAGGGTTCAGACAGGTTTCTTCTCGTACCCCCGTGACAGGTTTCTTGCT
45 CTCCCAAGCAGCCCGGTAACAGGCTCCGAGGCGTCCCAAGCATCAAGTTAGTTAGATCC
AAATTGCTATTATCGTAGGTTTATCCAACGCCCAAGTGACAAGTTTCCCGGGTACGTAG

45

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GGTTCAGACAGGTTTCTTCTCGTACCCACGTGCCAGGTTTCTTGCTCTCCCAAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 886>:**GNMPI73TR gnm_886**

5 GCTTAATATTCTTCCAAGTCTTATCAATAAATTTCTTCTTCGTCTTATTACGCTTGTCTT
AAGTCCCTTCCTAATTCTTCTAAGATGTAGTGCTTTCTGGGCTTTCAGAGGCAGTACCCT
CGCCGAAAGTTTTAAATTCGCTTCAATACTTTCAGAAATCCTCTCCGTCTCTTCAGCCA
CCTAACTCTCCGTAGTTTCGAAGTAAATTCCTCTAGAAGTGCTCTTAGATGCAGCTCCAG
10 GGCAAGCATTAAGATGTGCGTAATCCTAAACTTGCTCTTACGGTCCATCTGGTCGGGTC
CTCCGACGGCTCCGAACATGCTAAGCTTGTGGCTCTTACGGGCCATAAACCTCTAGTCAT
CCTCTCTATGGGGGTCATTCTCGTCGGTACTCATAACGAGTCTCTAGAGCTTCGGGCAT
CCTCCTAGGTTTGGGCTCTCTTTCAGATACTGGCAGCTACTCTAACATAATTAAATATTA
TCGGATCAGATGTAGTAATACTAGTAATATAAATATATTAAGTACCATCCAGTCTTCA
15 GGTAAATATGAAGGTAAGGTAGAAGCAGGTTAATATGCAAAAATTAAGTAAATAGTT
AACTGCTTCTAAATTCGCTCCTAATTCTTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 887>:**GNMPI74TR gnm_887**

20 GAGGGCATGGTCATTCTTAGTGTTAGCGGGGTAGGTGGCCACTGGTTGCGGTGGGGACC
TCCATAACAAGGAGCAATTTAAATTTTGGTTCGGGTTCTTGCAGGATTTGGCATCAACGA
ACGAGCTTAAGTCCTAATCCGTACAGGCGACCTGGGCACTCCGGGGCCGGGCATAATCCG
GGGCTCCATCCGGGCCCGGTGCTTCTGGGTCCAGAATACTTGCTGGTTTCTGGGTAAAGT
GGTTCGGGAAGTTAGGGCTTCGTTCAAGAAAATCCAGCCAGCTCCGGCCAAAGTACCAG
25 GGCTGCGGCTTCAGCTTCGTGCAAACTCCAGAGTCTGGTACATCCTAGGGGCAGGCTT
CCCCGGGCTGAGGGGGCGGCGAAGAAGTAAAGTCTATCGGCATGAGCGTGGGTGTCCGA
AAAAGAGAATCCACTAGTCGGCGCAAGTGGGTAGAATCCGTAGCAAGGTTTATATGAGTA
CCTAATTAACCCCAACTGGGAAGGGTAAAAACGGGTAAAGGGCAATTAGGGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 888>:**GNMPI76TR gnm_888**

30 GGCTACCCTCCTCGGCACCTTCATCCTCATCCGGGGCTTCGGCGTGGGCTCCTCTACCCG
TACGCGCTTCGGCAGGGTCTTGATATTAAACAGAACCCGCCTCCTCCCTAAACTCGTT
TGCTAGGTTTCAGCTTCTTAACTTCCGGGTCCCCCTGCTCTTCCGCACCACGGCCATCAT
CCATCTCCGGATCTTCATTGCTTGGTCGTCTCTCTCTTGTAGAAACCTGGTCAGCTT
35 CTTCTCGGTCCCTACTGTGGTCTTCGAAACGCTGGGTACATTGGGCAGAATTAGTACCGA
TCTCTTTCTCATCCGTCCCTACCAAGCGTTCTATACCTCTATCCTAGTCCTCGACTCCGA
ACGCACCAGCTTCGGGGTCCCTTCTTTCACCAAGGTCTTAAGCTCGTGGCCATCCGAAG
CCGTCCCCTGGCCGGCAACAAGCAGCCAAAGCGGTGGCGCGTAGAGCCGGGCGTTGGGT
CCCCCTCCTCCTTCGGTACATCCTAGTTCGTAGGGGGCGCGGGGAAAATCACAGACACCA
40 AAATCACGTTCTTCCTAAAGGTGATGATGAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 889>:

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GNMPI77TR gnm_889

ATAAAAATAGCTACAGGGGCTAAACGCCTTCGAGGCAGCCCTCCGGGGGTACTCAATCA
CAAAGTGTCTGCCATACTCCTATTCTTAGGGGCAAGCTGGGAAAACTAAACCTAGACAT
CTAGATCTTGGTCAGTTGAAACAAATTTTAGGCGTGCAAGGCAACCTATAACCGGGGTAC
5 ATCTAGGTAATAGTTGGTATCCGATGGATCCTCAACATCCCCTCCGGTACCCGCTAGGC
CAATGCGGCCCTAGGTTTGAGATTCTACTCCGCGTCTTCTAGTTCTTAGTCCTAGCCAT
AAAGATTCTGTAAATGCAGGGCTACCTAGGCCAGGCTTTCGGTTTCACGGTCTTCGT
TGCTATCATCATATGCAGGGTCAGCTTCGTCAACAAAAAGCCCTTGCTTCAGCGGGCGCA
AATTCCTCCTTCAACCTACTACTCGACCTCGCCGAAAACGTAAACCAAAACCTTCGTGCA
10 AAACCTCGGGATCAACAAGGCAAATATTGGTACCCTCAAAGTAGGCTTCAATCGGGGAGTC
CTCCTCCTCAAGAGGTGCTTTTCGTGCAATCCTAAACCCTGCTTTCCTAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 890>:

GNMPI78TR gnm_890

15 GTTCTTCTAATGGTCCGAGCTTTTCGTTGCAACCTGATTCTAAACTTTGCTCTTGCA
ACGATCCTACAAAAAGGTCTGGCTTTCGAAGCATTGGGAGTCAGATCTTCCCTCTCGAG
TTTCTAGTCTCTCCAACAATCTCCCTACGTCCAACCTAGTCTAAAAATTGCGATCAA
TGCATCTCTTGCTCTCGGTTGCGGGGCGCGATTTCGTAGTCTCAACCTCCGGTAACTCCG
CTCGGCCTCCGTCTTTGACCTCAGGATCGTAAGAGCTGCTAAGATGTCAATTGAGGTGCGG
20 AGTGTTTTTCAACCTGCTCTCGTGAGGGGCGCCAAAATTCTTCAAAACCTCCTCCAGCTC
CTGTAACCTGGGCCCTAGGATGCTGCATTCTTGCTAAACTGCCATGGCCGTGAGATTCTG
AGTAAACAATTAGGCCCTCCTCTCTAGTCCCAGGCTCCCTAAATTAGCAAAATCGAAAA
CTTCGGGGCCAAAAATAATGCTATCAACTCTAAACTAGTTTCTGGCTTCAGGGCTGGGG
TCTTCGGGGCATTCTAGGAGCTGGATCCTAAAAGGGTCCAATAAGAA

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 891>:

GNMPI80TR gnm_891

AGCGAAACCGATGGACCAAAGCAGAAAATAAAAGACGGGGCGGTTTCGAGTTGCAACTAAG
CTGGTTGAAACAGGGAAAGAGTTCTAAACGGAGGAAAAGGACTGTAAGTTATGTAGCT
30 TAGGAATGATCAGCAATAAGAGGTGGGGTTGGCCGCCGGGCAAAAGCTACAACTAAGAG
AGTACAACGAAGGCATAGGGAGGGGCAAGAATGCCTAGGTTAAATTGAGGATTGGGGCT
GACAAATTAACACGCCCTGCTTGCGGGGCGAGGGTACAGCAAGTACCGAAGTTGAAAAG
GAGACGACGGAAGGGACAGAAGATAGAAGAGGATCACATGGGGCAAAAGGGGCGAGATGGC
CTGAAAACAACCTGCAAAAGCAGCCGGCCGACTAATTCGACCGTCCAGGTGTCAAGTTCAT
35 AGGGGGTAATACTCCTAGGGTCCAAATCAGACATCTCGTAAAGAGGGGGCGTCCAGATAA
AGAGTTCATTGATAGTGTGCTCTACTAAATGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 892>:

GNMPI82TR gnm_892

40 CGGCGGGGTAGGAGGGGGTTGGAGTGCATCCAGGTCCCGGGCGGGCCACCCTCTCCTG
GTTCTGGTCCCTCCTCTCTCCAGCGCTTGAGAGCGCTCCGGTCCCTCGGTCCCTCCAGA
GCAACTATCTTTGACCAGGGCGTAGGAAGGGGCTTGGCCGTCTCCTGGTGGTTAAGTAT
CAAACATTTTCAACCTAAATATGCGCTTCTTCTAACCACCTCCTCCGGCTCCCCGA
CTTCTGTTAGATCACCAACATCTAAAAACTACGAGTACCAGCCTCTGCAGCAACTTCGA
45 TACGGCTTTCTCTTGCGGCAACCGGGCCGTGGCTTCGAGCCGGGTCGCTTCCATCCTGGC

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GGTGGGGGTTCTTAGGCTTAGAAGCTCCGTGCTTTTCGGCTGCAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 893>:**GNMPI83TR gnm_893**

5 AACTGATGCCGGAGAGACAGACAGTTACGATGCAGGAGAGGCGTGTAACAAATGGAAAAG
GTACATAGGGAGAGGAAGGAACACCGGGGACTAACACGCTTCGTAAAAGAGACCCTCTAG
TAGTCAAGGTCTCAACATAAAATCTGATCAGCAATCGGGTAACCAGGGCAAAAACAAGT
TAGACCTGAGTGCAATTCTTAGTTTCCGGGCCGCGTTCATGATTGCAACCTCCTAAGTAA
10 CTGCGTCCGGTACAAAAATTAATAGTACTATCTTGAAAATTCGAGGTATAATTGCTGTTG
GGGTAAAATAGGGCTAGGGAAAACCTTCGGAGAAGCTTCGTGCAATAGTGCTTTTATTATA
GGAGATCGCAAGCGTCTACAGGCGGGTGGGGCGAAATGGAGAGGAAAAGTTATGGATT
CAGGTATCTTAGCTTCnTTAGTTTGCTTTTAGTGCTATTAGTTCACTATATGCGTCTAGC
CC

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 894>:**GNMPI84TR gnm_894**

ATCATTCTCAGATCCTCATCCTCGCTCCTGTCAACGTCTTCATATTGCGTTTCTTGATAG
TTCTCATGGGTGCTGTCTCTAAGGTAAATGCATTCTTCTCAATGTGAGTACCGTAAACC
TTTCCGTAATTGTGCGTCTTGTAATCTTCGTTTTTCATTGACGTAATTCTTTTCAGGGCAA
20 AGGGTTTATATATATCTTCCCTACATGCAAACTTGGCCCTAAAATTCTCGTTAGAGGTCA
GGGCCGCTCTTAAGTCTTTAGTTGCTGCTATTATTTGATTAAGTCGGTCATTTTCGGCG
TCAAAGCAGCTCTCAACTTCTTCTTCATTTTCTTCGCTGGCTTCGTAAAAGCATCAGGGA
TTCTATTCTATCTCGGTTCAATGTCGTTCTCTTTGCAGCAACCTCCTATGTCTTCTTAA
ATAACGAATTTCGTCGTCGTCATGCAGCCTCTCGGGGCATCAACTTAATAATCGTAATGC
25 CCTCAACTACTGTCAACACCTCCCTCTCTATCGTCGCGATCCTCGCGGTCTGATAAACG
TTATCTTAAAGCCTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 895>:**GNMPI85TR gnm_895**

30 CGCTGGGTCATGAGTGCTTGCAGCTGCGTCTGCGGCGGTAGCAACAAAGTGGTTCGCTTC
GCTTCTCTGGGCACTACAGTCCGTACTTTGGGGTCCTAATTGCCCAGGCCTAGGCGTG
GGCAGGGGCATCCGAGCCACGGCCGCGCCTGTGCTTGCGCAGGGCCGCTAGTATTCGT
CGAGACCCTCATTAAGTACTATCGTCCAAGGCTTCAAACTCGGGGTCGTGGGGGT
AGTATCTTCAGCATCCGTAACCCCTCGGGGTGCAATAAAAGCCGGGGATTAAATCCAGTT
35 CACGTTCTAAACACGGGCGTGGGCATAGGGGCCGTACGCATCATCATTGCTCTCGCGGTG
GGTATAGTCGGGGTCGTAAATACTTCCTTTTCGGGGTACTGGTACGTTCTCTATCGTCAA
GAGGCGGTCTTTATCTTCGAACTCACCTCCGTACCGTCCGCGGCTCCGAACGTAATCGC
TTCATCTGTCAACGTAGCCCTCGCCTCCAAC

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 896>:**GNMPI86TR gnm_896**

TCCGTAAGTTAACTCATAGGTGGACATTTGCGCGCGAAAGTACCCCGAGGGGGCTCGCC
AAAGTCGTAATCTGGCCAGCAACCTGGCATTAAAGTAAAGATTACAGAAATAAATGTCTA

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5 GGAATTATAGGGGAAAAAGTAACGGGGGCCAACGATGCTTATCGAGCGACCGACTGGGC
ATTCAGAGGGCTAGAAAAATGTTGGGCTGCCGCAAACCAAGGAGGGGCTTAAGGGGAAAA
GAGGGTGCCATTAAAGACGATAAGCATAAACATAAGTAGCTTAAGCAGGAAAAGTACCAG
ACTGACAAGCACGTAAGAATCGTAAGCTGTTTCTTCTGAGTATATTAGAGGCAGCAGAA
10 GCGTAGGCCAGCGAAAAAGTAGCTGCCGAGGAGCCAGGGTGGGAGGGGCAGGGGGCT
GTACGACAGAGAACTATACTTACGGGCTAAGTAAGCTTAAAAAGCTTCGCTTAAGTAGTA
CGGCAGAAGGCCCTACTGCTGTACTATTCAGAAAATCTTGAAGTATGGTGAGTATTTAA
AGAATCTTAAGAGGAGTGCTCGGAGTTTCTTAAAAAGCTTATATCGGGGGGAGATCTTA
15 CTCGTAGATTAAGCCTGCAGACTCTTAAGAGAGACATAAACTGCGTTCTACTAGAGTGA
CATGAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 897>:

GNMPI87TR gnm_897

15 GTATAGCTTCAGCGTCCTGGGTGCGGGCCGGGGCCGAAGTTCGGGGTGAATGGGCCTAGA
AGTCGGTACGGGCATCCTCCTAACCGGCCCCCTCAACCACATCAACTTCCAGTGGATCTT
CGGGGGTGGTACCAGCCTCCGGGTAAATTGCGGGGTGAGCTTCAAGAGGGCAGCGGTAA
GGTCGTAACCGGTCTTTGGGAGCTTCGGGTTCTATTCTAAATTCTTCCCGTAACTTTGT
CCTCTAGTTGCTTCCAATCCAAGTTTTCGCTGCTTCAGGCATCCGGTAAATTTTCTCTTT
20 CGGGTAAAGATTCCCTCAGCGCCATCCATACCAGCTCTGCATCAAAACATACTTCAGATT
CGGGTTAGGAGTCCCTCGCCCTCATAGGAGCTGTCTACTAAGGAGTTCGTCAGGATTGC
TTTCAGATTAAGAGGTGCAAAAATCGTCAAGTGCTTGCTAACATCTCCATAGGATTTCGT
CCTAATTGTCAACCTATCTGCGGGCATCAACCTCCGATCTTCAAAAAGCGCTAAATTTTT
AAAAGAGCTGAGCTAGGTTCAATCTTTGGTCTAGATCCCTAAGATTGGCTTCATCTCCCA
25 GGTGATGATTGTACTGGTCTTAATAATTATAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 898>:

GNMPI88TR gnm_898

30 CGTAAGAAAAAATACTCGTACTCCTGGCAGGGGCCCTGCGCCTCTCTCGGTGCTTAAAC
TCTCTCGGTTACTGGCAAAGCGGTCTTAATTCTTTCTGCTAGTAGTCTAGTTGCTATTTCG
GGCTCAAGACCAAGAACCAGGAGCATCTATTTGCGGGTAAATGTTAACTTCGGCTGGAA
TATTATTATCCGGGAGGTAGGGGCTCAGGGGTAAAGTTCAAAGACTTCCAGCCAGGGC
TCTTAAAGTGGTCTTGGGGCTTACGGGCAATCGTGCTGGGGGCGTTGGGGTCCGGGAAGGT
AAAGGGTCTGGTGGGCTTCGTTTCATCATATTACGGGGATTCTTCTAGTTAGCTTCTTTGC
35 TAGGGTGGTTGCAAAATATCTCTATCTTGGGCATTACTTTCGTCGAAATCTCGTGATGCT
TCGTAAATCCGAAACTAACGGCGAAGAGGTAGTCGGAAAGCGGCTATTCGACTCTAAAAG
AGAGGCTCCGGGGAACCTCGGGCAGAGGCTTTATCGGGGTCTCTGAGTGTCCTGTCCTCAA
GGGAGCTCCnTCGTATATAAGTAGAAATCCCTCTATCTACTTAAGCTAGTAATCCCAGG
CGTAAATAAAGTTGGTAAGCTTGG

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 899>:

GNMPI89TR gnm_899

45 GACAGACAGGCTCTTAAATCCAAAGTCTCCCTAGTCATCCCTACTTTCACGCTTAAAGGC
CTGGTAATTCGAGTTAGATTGGCCGTGGCTACAGCAGACCTCTCCAGGGGCGGAAGTACT
TTCAGCTTCCCGTTGGTTGCATCTACAGACATCAGCAGCTTCTCTTTTGTGCGTGCGATT
CTTTGTAGCCTTCTGGTAACGGCACCGTTCTACGTCTAGGGGTGTCACAATACTCTAGTC
ATTCGTACCTAGGTCCACGCCAGCTCTCGTACAATTCCAGGCTTCGTGCAAAAAGGATTTC

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ATCCGTA CTCTCATCGCGGTTGCTTTTCGGGCTTGTGGTAAACATCGCTAGTCGAAAGATC
TTTAGGTCCGTCCTACCTCCTACCAGCTTATAGCCGTAATAGGGTACATAGTGGTATG
TTTAGTGGGGTTCCCTACATAGATTTAATACTACGGGTAAACCGGGCCATAAAC

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 900>:

GNMPI90TR gnm_900

CCTTGTGTCCCAACCTGCATTCTCGGCTACTGGCTACAATAACCGGAGTACAGGCTATGG
GGTCAGAAACCTGCTTCTTCCCCTCAATATCTTCTTCTGAGCGGCTTCTTCTTAGCTGT
CTCTTGCTCCTCCAACCTCCGTCAACTTATCTTTCAACGCCGTACCTGCCCTACCTACACT
10 AGTTTCTGGGCCTCTCCTAGTTCAGCTTCGTGCAATATCTATATCAGCAGCTACCAAAAT
CCTACTTGCAGGCGCGCCTATCCCTACCATAACTTAGGAGTTACTCACGGTCGTTCTTAG
TGTAATCTCCTCCTCGACTCCAGCATCAAAGTCGTTCCGGCTCTCTTCATCATAGTCTT
CAATCTCAATTCTAATGTCTCCATCGGGGTACATCCTAGTGATTGCTTCATTCAACCT
TACTGTATCCCTCTAAAGAGGCGTGCTATGGCTTCATCTGGGCCATCAATGCAATCGT
15 TTTGCTTAGGCCAATATCAAGCTCGTTTCAACCTTGCTAACTTTAAGATCATGCCTGC
AGTCATGCTTCTCCTGATCCTCTAAAAATTCTCGCCAATTAAGTTTTTCACTATATTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 901>:

GNMPI91TR gnm_901

TTCTGGGCCCCGCGGCTGCTCGGGTTTTGCTTTTGCTGGTTCTAGTAGGCTTCATAAA
GTTCTTTTGAAAAATTAATAACTTCGGAGGTGGTACATACTAAATCCGGGCTTCTAACGT
AAGAGGTAAATGTTCTAGTTTAACTTCGGGTGCGGAATTCAGGTAACACGGTCAGCGG
CAGCAAAAACCTCGAAGATGAAATAATACTTCTACTAAGATCTAAATCTAATGTCCGCCA
GCCAGGTAACCTAAGTTTTAGTGCCTATCTCCTCAACTCTCCCGAAGGCGCAATTACAGG
25 CATACTACGAAGTTGGTTCGGCGCAATCCGGAGAGTCAACGTCTCCTAAATCTCTTCAA
CGACGTCCGCTTAAGTTCGTCCCTAGTTCGCGCAAGCCTCCTCCAGGCAGGAAGCTTCTG
GTCCGGATCTGCATGGTCCCTCGGTTGCGGGCAAGAATCCTAAGTGCATCCCTGGGCAG
CGGGTGGTCCCGAAACGTGCGAGGCCCCCTAAACCGGGCCAGATTGTGCAGCTTCAGGAT
ATTTGAGATTGGACGTGCTGCTGCAAAGTAAGCTCCCTCGGGCCCCGAAACAGCGTAAC
30 CGCCGGGTCCCGAACAAATAAAGGCCAGGGGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 902>:

GNMPI92TR gnm_902

TTACTGGTGCATCATCTGGCTACAGCGGCTACTATACCCCTACCAGCTCCTCCCTAG
35 GCTAATCCTCCAACCTCCGATTGGTTAGAGCTATAAACCTAAACCTAGCCGCTCTCAACG
CGGTTCTATATCTAAGAGCTCTCAGGGCATTCTAATCTTCTAGTCCTTATCGTTCCGA
GTTGATGCTCCCTAATCTACCTACTACTCTCCACCTCTACTTGGGTGATCGTACTGTCTT
CGGTCTAGTCGGGGCCTCTATAATCCTAATTGTATTAATATGCTTCAATGCGAGCAAAA
TCGCGCGAATAAATATTGCTCTTATCGTAATATTACTGTTCAAGTTCACGTGGCTGTAA
40 TCGAGGTCTCTATCAAGGATCTTCTCAACGTGTGAAAAATCTTCATTTCATTCCTGTAA
GCTTCATAAGAGGGGTAATCTTCGGCTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 903>:

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GNMPI93TR gnm_903

5 GCAAAACCTTCGCTTCAGAACTTAACGCGGGGGGCTCGGGCTCTGTCGTGGCCTCCAG
CCGGCACCTAAGCATTCTGGGTAAATAGTCAAAAGCTTCAACGTACTCGCCTCAAATCAT
TACTACTAGAAAGATTCTAAATAAAATTCGATTCAATCCTAGTGGTAGAAATATGCTCCC
10 TAAGATCAGAAAAAGTAAGTTTCTTTTGCCTGTCCGGTAAAATTCAACCTCAATATTCC
TCCAAAAAGTATTACCTTCTTAACCTACTCAAATTAACACCGGTAGTTATAGAAGTCGAGC
CTTCCAATCCAATAGAGTTGCAGTGGGGTTTAAAGAGCAACTCGACCGAAGTAGCCTCCA
AATCTTCAGCTGTAACCTAAAAAATCTTGCCTTGAAACTTCGAAGTAGTCGAGTCCTGGG
AAACGATCATTAAAGTCCGGGCACTACCAAACATATCTTTGTTAGGCTATTTCTACTCG
15 TACTCAATCCAGGCTTACTCTAAGAAACACCAGAAATACTTTTCTAGTACAGAATCCGG
GCTTGGGGTAAGCTTCGTGCAAAGCTTCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 904>:

GNMPI95TR gnm_904

15 TTGGGAATCGCTTGGTCAATATCCGGGTCTTCGTCTCTAATACTAAGATTCTTGGCTTCG
CCGTCTCCGGCCTACTTGCAGAGGTTCTTATAAACCTCTAAAGTTCTTTCTCTAGAGGC
TAATAATATTCTCGTTACGGTTATTAATACTCGGGTACTACTATCCTCCTAGTCCTAGG
CTTTTCTTCTCAGCTTCGTGCAAATACTCAGGCTATCCAACCTCCTAGGGGTGATGGTTGG
20 CCCTACCATAAAAGGCAGCTTCAGATTCAATATCCTAATTCGGGGCTTCTTTTCGTTCAT
TCGGGTAAGTACAAGCTTCTTTAAGGGCGTCTCGTTCATAATTAAAGTAGGCCCTTATGG
AAGTGCTATAGTTAAATTGAAATCTCATAACCTCTCTTCATATCTTATGCTTCTAATACC
TCATACTCAATTTAATGTAGATGCTCCTTCCGTAAATATTTACTTAAAATGCAATAGTAC
ATATGTCTTTAAATCCGCTCATTATGGTTCTTTTGCTTCTTTTGCTTTGGATGGGCTAC
25 CGCCCGTATCTAGAGCCGGGGCGCTCTTGGCGTTCCCTCTAAGTTCTCTTAAGGTTACGAG
TGTCGTGCGCTGCCATCTCTATGTGCTGGTAAGCTTCGTGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 905>:

GNMPI96TR gnm_905

30 CTCCCGGGTCTCTTAAATCACAGACGTCTCTACCCCTCCTAGACCTCCCGGCAGCTACGC
CCCCTACAGCTTCCGCCGCGTGGTCGTCTGCGTCAGCGCCGACCTCGGCCCGTCAA
CTCCAGGGCTGCTAGCATCCTGGCTCTTAAGCTTGCTCTTGCAATAATCGTCAAAGGCAA
GGGGGTCAACAGGGTCGGTAATACCTCCAGGGTCTTATCTGAAAGGTTCTATGCGCGGG
CACCAGCACCTCGGCAGAAGTGGTCGGCGGCAGGGGACCTAAGAAAGTCCGGGGTACCCG
TAGCAGGGGAGCGTCCCCCTCCAAGCTGCAACTCGCAAGGAGACTCCAGAGCCTCCTCC
35 TGCGGCTAAACTGGCCAGGCCCGAGTCGTTGTAAATGGGAGACGCCAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 906>:

GNMPJ16TF gnm_906

40 GTTGTCCAGTGGGGGGGGGGGGCTTTCCACATCCAGCGCGTCTTTCAAATCGCAGCGGT
ATCGTGGTATTCAAAACCTTTTCAAGTCAAACAGGTTGCCCAATACGCGCAACACTTTCCA
CAGCGGACGCGAATCGCCGAAGCCTTGTAACACGCCGTGGAAGGATTGCAGACGGCCTTC
CATATTGATGAAGCTGCCTGAGGTTTCGGTAAAACGGTGCAACCGGCAGCAAAACGTCGA
AAACGTCAAGCACGGTTTCGCTGAAAACGGCGTAAACGCAATCAGCCTTTTGGCCGGTT
TCAACGCG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 907>:

GNMPJ71TR gnm_907

```
5  GACGAATCGGTGTGGACTGAGATGGCAAAGATCGTGTGACCCTTAAAAGGTCGCTTAGT
   GGCCCGGCCCTAGCCTACTAACGATATCGGTGGTGCCTGTAGCTTGTCCGTCCTAACT
   ACTAGGTGGCTGGGTCCGGTGCTGTGTAGTACCCCTCGTATGGCCATGTTACCCGTGGG
   TTGGTGGCGTAATATAAATAGTTGATGGTGACCCTCGTTATAGGGACGTTGCCGCTGTCT
   AACATTGTGTGTGCTAACGTTGACCCTGTTGAATCTGCCGATGACGACGATTTACCCCTG
   CCTGGGCTCCCCCGTGTACTAGGTCCCCGAGTGTGGCGGCCCGTTCGCCGTTAGAAAA
10  TTCGAACTAGGCGGATCCCGGCCACCCTACCCTCACGCGACGCTTATCCCAAACCC
   GAAGACAGGGCGCCCCAAACGACCAACAACGCCAAAAGCGACGGTAGTCGCCACTACGC
   CTCTACTAACCGATAACCGGCTTAGTAAACCTGACACACTGGTCGATACTGTTGG
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 908>:

GNMPJ73TR gnm_908

```
15  GCGTGTGCGAAACGGTGTAGGACCCGGCCGACCACGTTGACGAAATGGCGTTGATTCGTC
   GGCGCCGGGCATGTATGGATGCATTGGGTCGACGTATCCCCAACGGGTAGCCCCGTTGA
   AATGGCAACGTGTTAAAGTTATTCGTTGTCCCGACCACTTGTCAGTACAAGTTGAAGAG
   GTGCAGAAACCCCTAGCCCCGAGGTTCCAAACGCGACCCCTACACCCAAGGTCCCCCAA
20  CCCACTCGCCCCCAATGGGAGGGTAGCACGTTGACCATACCTGTACTCTGTGTGTTGCT
   GATAGTTCGTGTGACACTAAACTATTTTCTACCCCTTCGTTGTACATGGATGGCCTGCGT
   TCCACCGAACGTGGTAACATTAAAGCGACCCGATTGTCCTTACAGACGAAAATGCCTTG
   TTGCCCTCGTGTGGCAAAATTAAGGTCGGGCAATGGTGGAACATGGGACGTCGTTTCGTT
   CTAATCGTCCTTTGGACGCTTGTGAAGTCCTGGTGGGTAATAGCTTGGGTGTATATAA
25  GAAACTTAATGCCCGACTGGGTGCCTTTCGTGTGTGGCTGCGGA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 909>:

GNMPJ75TR gnm_909

```
30  CCTGGGTAAAGTAAACCCCTGGTAAAGTAAAAATTTGAACAACTGGGGGCCCTCGA
   ACGGGCGCCCGGTAGCGATTTCATCCCTGTACGGAAGAATTATCACTACTGGTGTGCGAG
   CTGCCCTATGGCTTCGCCTGGGACGGGAAGGTGCGGGATTAATCTGTCACGGTTGTTAAA
   TCCAAATCGCCATAAACTGGCAAAGTTCCAACTAACACACCTGGCAACGATCGAACTAGC
   TAGCAAGTCCCCACTCTCCGAAGCCTCCTAAACGACAGAGCTAAGTTCTATGAGTAACCA
   GCACGGGCCAGTCCTATGTGCCATTGTGTCCCTATATTTTATCACTAATGCTTCGGCTC
35  TGAATGATCTCCAGCGTGGCCAAATTGTAAGGGAAGCTCTACTCCTAGGTGAGCCCTGT
   GTCCAGACGTCCCTA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 910>:

GNMPJ76TR gnm_910

```
40  TTGCGCTAGGACGCTCGTTCGACATAGTTATGTTAAAAACGTGGTTGTGTTTGTATTGCG
   CGTGATAATGGTGATGCACCCGTTGTGCACGTGCCTAACGTTGCTCGAAGTTTCGTTTCG
   TTACCTTTTCACGTCCCGATTGGTTGATGTCCTGGATACTCGTATGATGGGACAAATCGAC
   TGTTTAATGGCTCACTTATACTCGACTTCTCTTGGTACTGTGCACTAGTTAAAGTGCTAA
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ACTCCTGAGCCTAAAATTTCTGACATTGTTTTGTTACCCCTAGTAGGCTTTGGAGGGCAA
AGGTGACGAGTAGTGAAGTGGGCATGTCTAACACGGTGTAGATGGCTAGGTAGGTAAAAA
CACCTATTATTTGTTGCTAGTTCCTTAATTTAAATACCCGGATGTAAGTAGTAGGTAGG
GTAGGTAACTAGTAGTTATATTAATGTTTACTGGGCCCGTCCGGCTGGTGTAAAGTT
5 AGTTCGGTACTTGTGATAATACAAACACTGTTTATATTAATACGGGTAGGACAAATGTAG
TGATGATTTACGTTGTGTTACCTTCGCCCCCTTGCTTATACCTTAAGTACACCCATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 911>:

GNMPJ77TR gnm_911

10 TAGGCGTGGCTCCTCGTGGTGGGTCGGCAAATAAGGCCGAGTTGTTGCCTGCCCCGGCT
GCACTCCCTCCGTTAAATTAATTGCCGCAGGTAACCCTCCCCCGTCACTTAAGTCGCCC
CCACCGTTGGCCGAGTAACACTCCCACCGTTCGCAACGGCAATGGCGGACCTCCCGCTC
CGACCGCGGCCGATAACTACTGCTTTCCTACTGGCACCCGAACATGGCGGAATTAAAGT
TAACGTTTGCCCAA

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 912>:

GNMPJ79TR gnm_912

TTTCAGAACGGGTGCTATTCATACCGTGCCAGGTTTCTTGCTCTCCAAGCATCAGGTCC
CGAGGGTGCATCCGGTCCCTAGGTTTCATAACCGCCAGGGGTAACCGCGGCGAGACCCGC
20 GACCACCAGGTGCAAAACCGCACGGAGACCCGCGCAAACAAAGCTCGCCAATTCCCTCAG
CCGAAGCATCCCTAAAGTGGCTCCGGTCTTTAGGGTACGCTGGGTTTCAGGGTCATCAT
GGTCGTGGTTCTCTTCGCGAGTAGTACTCGGGGCCTAATCGGCCCAATCCTCCATCCGGT
TCCATCCGTCCGAGACGCCTACATGCTTCTCTTCAGCACTACTAAGAAAGTCCCGCGCTC
TCTGGCGCTCCTAAAGCGCCTCATAGAATTCTTCAAACACAACCTCCAGAACCTAAAGGT
25 CCCCCGTGCTCCCGCGGCCCTCTCCCTAGAAGTCAGCATCCTCACCTACGTGGCTCGGGT
CTTCTCGTTCGAAGTAGCGCGCTTGTTCTGCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 913>:

GNMPJ80TR gnm_913

30 CGTCGTGCAAACCTCTGGTTGGCCGCCGGAATTTAGGGTAAGTCTCCGGGCCCTAACTG
CCGCCGCTACTGTCTCTTATGTCTCTAGTTCTACCGCTCATACCAAAGAGGCCTCCCATT
ATGCTATTACTGCTGGCGGCCATAACTTGGGAGTCTCGGTCTCTGCCAAGTGCCTTTAAA
GCGGTACAGACCTAACCAAAGTCCATGCTGGCGTCCGAAAATCTGTGCTCTTGGCCTGC
AACTAGTCTCTCTGGTGACTCCTTCTGTCTCTCCCGTGGCAAGTCATACTCTCCATCTAA
35 GTATTAAGAGGGTTCTTAGCTACGTCTCGGGTGGTCTTCTTACTAAAAGCTCTCTCAGGG
GTCCCGTCAGCCCGACCTCTCTGAGTGGGTCTTCACGGGCCGTAACCTCCGAATCTCGCG
GCCGATTACAGCATTTCAATGCGGGGTACCTTCGTGCAATAGGCCTTCCAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 914>:

40 **GNMPL04TF gnm_914**

TGAGATAATTCGCCCTTGGATAGCATGGAAAACATGACCGAAGAGCTGCAACACTGCTT
TGAAGCACCTTTTACACGCTCGGCCCGCTCGTTACCGACATCGACCCGGCTACGACCA
CATCACCTCGGGCATAGGCGCGGCCAATATCGGCTGGTACGGCACGGCGATGCTTTGTTA

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CGTTACCCCGAAAGAGCATTGTTGGGCTGCCCCGACAAAGAAGACGTGCGCACCGGCATCAT
CACCTACAAACTCGCCGCCACGCCCGATCTCGCCAAAGGCTGGCCGGGCGACAATT
ACGTGACAACGCCCTGAGCAAAGCGCGTTTCGAGTTCCGCTGGCGCGACCAATTTCGCTT
AAGCCTCGACCCTGAACGTGCCGAGAGCTTCCACGACGATACTCTGCCTGGCCGAAGGCG
5 CGAAAAATCGCCCACTTCTGCTCGATGTGCGGCCCAATTCTGCTCGATGAAAATCACGC
AGGAAGTGCGCGACTACGCCGACAAGCAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 915>:

GNMPL55TF gnm_915

10 TCCTACCTTTTCTTATATGCTCCAGTGCAAAAGTAAAAATACCACTTGGGATATGGAGAG
GGTTTAACTTTGTATTGGGTTGGCACGACGACCATCAAAACCTGCCCGTCATCGCCAAA
ATCGCCGAAGATTGCGGCATCGCCGCCCTTGCCGTCCACGGACGCACGCGTACGCAAATG
TACAAAGGCGAAGCGCGTTACGAACTCATCGCCGAAACCAATGCCGTCTGAACATCCCG
GTCTGGGTCAACGGCGACATTACTTCGCCGCAAAAAGCCCAAGCCGTCTCAAACAAACC
15 GCCGCCGACGGCATTATGATAGGGCGCGCGCGCAAGGCAAGCCGTGGTTCTTCCGCGAT
TTGAAACATTATGCCGAACACGCGTGTTCGCCGCTGCCTTGAGTTTGGCAGAATGCGCC
GCCGTATTTTGAACCACATCCGCGCCATACAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 916>:

GNMPL69TRD gnm_916

AAGTTGGCAACGTCGTTTGCTCGTACTTAGCCCGACCGTTTGCTTGTCGTGGCCGAGGGT
GGCAATGGCTAACCTTGACACCTGAACGCCCCCTCCGCCTGCGAAACGTGCTAGGCA
AGGCGTAACAAAATGGTGGATAATAGTAGATAGTCCACGGTGGTAAATTACATTTAGTG
ACAACACAGCGGACCAAAACCAATTAGCATAGTGCCGTTCTGTTCCAGTCTAAAGAGAA
25 TGACCTCTCAAGGCGTCGAAGTATTAAGCGAACTGGCCTTGCAATCACCCGCATCGCTCGT
GGTCTGCTGTTCCGCTTCGACCCAAACCAACTTATCACACCCTATGTCCATTTTCCGC
CCTCTAAACGTTTGCTCGAAACAAGTGGTCCAACACACCCGCATAGCACCGGGAAGTACA
ATAGATAAAACGTTGCTCGAAACACCCCTAGATGGGACCCCTCCACTTGAATGGACCACC
CCCGTGCCCTAATTGTCCCTAACGTATGT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 917>:

gnm_917

GGCTAGGGAGAGGGCGGCAACCGTAGGTTTGCTTGAGCGGTATTTTCAACATACAGGCT
GCTTTTCAATTCGTTGAAACCGCACTTTAGCTTCGCAGAAACCCCGCTTCCTTCGGAA
35 GTCGCTTTTTCAGACGACTCCCTACTTTTCCCCGCCGCAACGGGTTCTGCCTTTTAA
CGCCGCCCTTCAACTGCTCCGCCGCTTGATCAAACGCGTCCGATGTTGCCTkTCATCAGG
CGCAGACCGCGCTCGGGGAGAACGGGTTGTCAGCTTTGCGCAGGATGTCGTCGTTGCCG
CTGGTTTCGGGGGCTTCGCGCCATTTCGAGTTTCCCGTCGTTAAGGATGGCGCGGTACGG
TCGATGATGAAATCCAATCGGGGTTTTTCTCTTTGATGTATTTCGAAGGAAACAGGCTGC
40 CCGTGCCCTGCGTTGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 918>:

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GNMPO23TF gnm_918

ACTTCATGTTACGTTCAAAAATTTAATGCACTCAATATATTTTTTTAAGGAGAAGCAGGT
GAGTCAAACCGATACGCAACGGGACGGACGATTTTTACGCACAGTCGAATGGCTGGGCAA
TATGTTGCCGCATCCGGTTACGCTTTTTATTATTTTCATTGTGTTATTGCTGATTGCCTC
5 TGCCGTCCGTGCGTATTTTCGGACTATCCGTCCCCGATCCGCGCCCTGTTGGTGCGAAAGG
ACGTGCCGATGGGCGGCGCATGAAGCGGTGTGCGCCTTCGACGCCGCTGTCGCTCCATT
GAGGGACTGTTCCGGGCGGTGCGGCGAACATATAAACAGGCGGGCGGTGTCCGCGCCGTA
GGCGTTAATCAGTTCTTTCGGATCGACGCCGTTGTTTTTGGACTTGGACATTTTTTCCGT
GCCGCTGATGACGACGGGCGAGCCGTCGGCTTTGAAGACGGCGGAAATGGGGCGGCCTTT
10 GTCGTCAACGTCAGCTCGACATCCGGGGGTTGATCCAATCTTTGCCGCCTTTGTCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 919>:

gnm_919

GCGGGTTCGGAAATGTGCTGAACCGGATTATCTGCTGGGAATTGCTTTGCCTGTTTGA
15 CCGTGGCGTATTTCTGGCGGTTGTCCTGACGGTTTGGTGGGCGTGGGCAAGGGCTAAAT
AAATCAATGCCGTCTGAAAGGTCAGACGGCATTATTTATTGTATGTCTGCTGTGCTGCGTA
TCAGTCCAGATTCAATACGGCGGAAGTGTAACGCTTGCACGTCGTCCAAGTCTTCCAG
CGCGTCAATCAGTTTTTGCATTTTGACGGCATCGTCGCCGAGAGTTCGGTTTCGTTTTG
GGCGCGCATCGTAACGTCGCCGTAACGGATTTGTAACCTGCCGCCTCCAAAGCGGATTT
20 TACGCCCGCCCAATCGTTTGGCGCGGTAATGACTTCGATGGAACCGTCGTGTTGGTAAC
CACGTCTTCCGACCGGCTTCCAAAGCCGCTTCCATCAGCGCGTCTTCGTCAACGCCGGG
TTCGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 920>:

GNMPP87TFB gnm_920

TATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCC
TGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 921>:

GNMPS93TF gnm_921

CGAAATTTTCATGCCCTTCGGCTTCTTTGGTGAGCTTGACGCAGAATACCATGCGTGCCAAA
ACGGATTCTTTGCTGTGTTCAAAAATAACGGGGTGATTTTAACCGATTAAAGGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 922>:

GNMPS95TRB gnm_922

CACCTCCTCCACCCGAAGAAAAAATTGATCCGGGTGGAATGGGGTCGGCGGCTGGCCCC
GTTAATAGTAGTCCCGAATCGTCTGTGGGTACTGGTGCGCCCGTTGTACCGGGTCCCACG
GTGTAGGTGGGTGGCAAGGTGGCTAATGAGGCCGTTCTAGGTGGTACTGGCCCGGTGCC
ACTGTTCCCTTGATTACCACTAATTAGGTATTGACGGGTGGTTCGACTGGTACACCGCCC
40 CCTGGCCTGTGCGCGCCTGTTGGTGCCATGCTGACGACCCCTACTTCCGAAGCGACCGCG
GTGGTGACCTAGGATAAGTCGAATACTGGGTGTGCTAATGTTATGTCGTGCGCTCGTACC
TTGACGGGTACCGCCCTTATGTCGTGCGCTGGCATGGTGATGGTGTGCTGTTGCCCCGGAT

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GCGACGGATAAACCTGCTAATATTCATGGGACCGCGTTGTTGGTCCCGCCACGCCGTT
GTTACTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 923>:

5 **GNMPU24TR gnm_923**

GGATGGATAAAGGCAGCCGGCATTCTACGCGTCTGTTTTAATACATTGCGGGATTGCT
GCCTGACTGCCTTAGCCCTTGCTTTGCGCGAAACAAAGACCCGTAAACCGTCTATATTCA
AACGGTTTACGGGTCTTTTTCTCTCTTGCCGTTTCTTCAGTTTGCCGATCCGACCAG
CCACCGCCGATTCTTCAAACGGTTTCCCGCGTTCTTCCCACTTAACGAACATTAAGTTC
10 TGCTACTGCTTTCAGCCCAATGTGGAACCTTGCGCCCTGTCCGAATGTTGCTGCGCGCTT
TGCTGAACCTTCCCTGCCCTTGCGCTTCTTCTTGTATGGGTTAAACAGCAAGCCGTTTTT
ACATAGTCCTTGCACATCAAATCCGTCACTTCTTCACTGCCGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 924>:

15 **GNMPU24TF gnm_924**

ACGCCGTATATTGACTGCATTAGGCTTGATGGCGGTAACCTATTCAGGGGTGGATAGATT
GGTAGCCCATTTTCAGCAGCGGATAACCAATAGCATAACGGGCGCGCCTCAAGCGATGTT
GCAGCTTTTTTATATAAGCGGCGGTGGAATCGTTCTTAATATCCTGTTTGGCGCGATCGC
CTTTATTCTGTCAATTCATACACCTGACAAACTAGCAACCTCAATCGGGAAGAAAAATA
20 AATGGTAAAGATATGTTTGATAACCGGCACGCCCGTTTCAGGGAACATTATGAATGGT
TTCCATGATGGCGAATGATGAAATGTTTAAGCCTGATGAAACGGCATAACCGGTAAAGT
ATTTACGAACATAAAAGGCTTGAGAATACCGCACACCTACATACAAACGGACGCAGAAAA
GCTGCCGATATCGACAGA

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 925>:

GNMPV25TF gnm_925

TTACAACACGGTTTCTTTAGATTTTACGTTCTAGACACTAGTATGAATCCCTGCACCGCG
CAACATCGCATCTGCTAGATCCGCCGCTATCATACCACTAGCGGTTGCAGCAATCGTAC
TTCTGTGTAATCACATTGCCCT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 926>:

GNMPV30TF gnm_926

GCTTCGGCTTTTTGGCGAGCGGTGTTGGCATCGCCGTTTTTTAAGATGCTCAATACTTGA
GTGGCGTTTTGACGGATTGCGCTTACCGCGTCGGCAGGGGCGGCAAATGCCATGCCGATG
35 CTCAAAATACCGATGCCCAATGCGCTGATGAGGGAGGATTTTTTCATGATTAAGTGCCT
AGTTTGAATATGATGGCATACTGTTTATTCGCGCGCTTTTTCCGCATTCTTTGCGCTTGC
GCGCCGCTCGGCCTTTTGGGGTAAGCGTCGGGTGTCCAAATACCGTCCTCTTGAGCC
GCAGCTCGGTTTGCCTACCATCCATGCGGGATAGCATAAACCGCCGCCCATCAGAAAAA
ACACCGCATCGATACCGTGCTCGTCGTCGATCACATGCACACGCAGGCCAGGTTGCCACA
40 ATACGCCGTCGCGGGTTTATGGCCGCCACGGTTATCGTGAGTGTAATCCCTCCAGCC
GCCAGTCGGCCAGCTGCTTTTTAGCCTGCTTTTGCAATGCCG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 927>:

GNMPV42TF gnm_927

```
5   GTCGTAAATAGCCCTCGAAATCAAATGCCGTCTGAACATTTCCCGTTTCAGACGGCAT
    TTTTCAAACCGGACTGACGCATCGGGAGCAACCGCCCGCACC GGATAAATTTCTGCCGCA
    GACAGTTTTCAGACGGCATTGCGCCCTGTACAATATAGTGGATTAACAAAAATTAGGACA
    AGGCGGCGAGCCGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCAC
    CTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAGCGCCGTCCCTCGCAATATCCGTC
10  CCGCCCGCTGCGGCGGCGGATACGTCTGCCTGCGCCAAAACGGGCGCGTCGTTGATGCCG
    TCGCCTATCATCAGCACTTTTTTCCCTTCTTTTGCAAGGCTTTGACGTATTCAGTTTG
    TCCTCGGGCATGGCTTGGGCGCGGTAATGCGC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 928>:

GNMPV63TRC gnm_928

```
15  GGGTAGTGAGGCCCAAAAAAGTTTGTTCATTTTGAATAGGCTGCCCTTGTACTTGGT
    AAGGCTCCGACGATGAAAGATGACACCCCGGTAGGCTAGCTCGTACGGTAGATCATTGGT
    GGCACGGAAGCTGGCCTGACCCCGGGCTATGGCGTACACTAGGTCTTGGATCGGATGGTG
    GATCGGTCGTACTGCGAGCCGGCCGTTCCGGCCGACCCGATTGTGTAATAGATCCATGGT
    AAAAAACCTGATGAGGCCCTTTTGTAGGAATAAGTTGCTCCGAAAATATGTTCCGTTGAT
20  GAACATTGTAATAAGTTGTGCGAAGGAAGATGGTAGTGCTGCTACTAGTGACATGTGT
    GCGAAAGTTACTGAAAGTACTTCGTTCCATCATTATGGCGCGCATAGTGATGACTTCAAG
    CCTTAAATTATCTGTGAATATCCCGTAACGAAAAATAACATACCGTTAAGTTAAGAAGTG
    TGCGAAAAATCGCCTAATCCTCCTCCTCGGATCCTCCGGCTCGTCCTGATTAATTGCTTC
    GATGAGAACCCCATCCATATTAATAATCGGTTGTATGAATTCCCGACTAATAATGCAGTG
25  ATTATCGAA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 929>:

GNMPW59TF gnm_929

```
30  CCAACAGGTGCAAAATGGTATTGGTGCTGCCGCCATCGCAATATCCATCGTCATAGCGT
    TTTCAAACGCTTTTTTGGTGGCAATGCTGCGCGGTAACACGGTTTCATCGTTTTGCTCGT
    AATAGCGTTTGGTGATTTGACAAATCATACGGCCGGCTTCGAGGAACAATTCTTTGCGGC
    CGGCGTGGGTCGCCAAATACGAACCGTTGCCGGGCAGGAAAGGCCGAGTGCTTCGGTCA
    GGCAGTTTCATCGAGTTTGCCGTAAACATACCCGAGCGTGGTCGGCACGCTTGCCATGTTT
    CTTATCGGCGGCGTACTGGTCGCCCAACCTCGGCCTTCTGCACGATTTCCTGCACGCG
35  CAACACTGGGACGCTGGCTGGGCGGAGTACTTCGCCAACTTCGTTGTGCGGCTGCTTTCC
    GGTTCGATTGCCTGCGCTTCCGCCTTGCCGCTGATGAATCGTTTCGGCAGGCATTGATTC
    CTTTTTACATACCGATGCCGTTTGAAAGATGTTTACAGACGGTATCTTCCGAACCAGACAG
    ATG
```

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 930>:

GNMPW71TR gnm_930

```
CTACTAGATGAAACATAGAGGTAGAATTTTCATGACATCAGCATGGGCAATTATATTTTA
CACATGACCCTAAAAGCACAGGCAACAAAAGCAAAAATAGACA
```

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 931>:

GNMPZ21TR gnm_931

5 GCTCGGTACACCAGGAATGGTCAGCAACTTCACAGAACTCCTAGTGCCACCTTCCTTTTT
GAACTTTTATGACTTCTGGACAGCGTCATGATGATTGTCAAGTGTACACACAGTGGA
AGTGTCTTTTTTTCACATCCCCCTTTAACCAATGCCACTGCGCTGCCTGCGATAATCTGCG
AGTAGGCTATGACTTTTTTGGCGTTCTTGGGGTGACAGTTTGCTACATCGCGTCCGTCCA
ACAGGGTTTCTCCACCATCTCGCCGACTGCCGCGCCGATTGCGCCGTCTCGACATTTGC
10 CTTTATTTGCTACCGCCGATGCACAGCCTGCTACGGCATGCGCTATCTTGTGGCAATGT
AGTCTTCGCTGAGATTAAGTTTGATTTTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 932>:

GNMPZ44TR gnm_932

15 ATCGCCCGTCTCAATAACCAATAAGCCTTTGCTCTCGATCCGACCACCATTGGAGATAAA
TGTGCCTGCCGCTCCTTTTTTCGGTGGTTTCGATGGAGAGATAAGTCGGTGAAGCTTCGGT
GCCGTCGGCAGTGGAGGCGATGCGGCCGCTGTTTTCAATGCGGACTGACGAAGTCACAAG
CAATTGCTTGGCCGCTTCGAGTGTGACGGCATTTTTGACGCCTACGCCTTTTTCATTGGC
AGTCAGTGTGATGCTGTCGGCGTACATAGCGCCAGTGCGGCAGTATCAAAGGCAATAGT
20 CGGTTTCGTACCCGCTGCAGTACCTGCACTGATTTGCGCCGCTGGCGTAATCTACTTTCTG
AGGACCGGTAGAAACCGCCAGGTTTTTACCCTGTAATTTCCCTGCAGAGCAACTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 933>:

GNMQA27TRB gnm_933

25 CAACTCTGCGGATGGGGCAGGTAACATATGTTGCCCTATTTAAAAATTTGTTGTGTTGTG
TGAGCAGCTATTGGCAACGGCGCCTGTGTTTCGCTTTACTAGCCTGGCCATTAATAACTT
TGCTTTTACCCTCCCTAGTAGGCTGGACCGTGCCCTGCGTGACGGCCTAACATAGGCC
GCGTGTGTTGTTGGTGCCGTTTGCGGCTCGTACATTGAGCCCGTGTGTGTCGCAATCGTC
GAGGAAACAGTTTCTGATAACGTTGCCCGAACTATGAAGTGTGGCGTGGCGTAATGTT
30 CTTGTACTAAAACAGTCGTCGTGGAAGAGTGGGGGACGCGTGGCCTCCTGTGTAGGCC
GAGGAAACTGGGTAGGATCCCCCGTTGACGTCGCTGACTAGGAAATCGTCCCGGTGGCA
GAGTGTGTTGTTGGAGAGCGTGTGATGAGGCGCTTGACAAGATTGTTGAAATGGCGGC
ACTGAAGAGGATGGGGCAGTCGTTGCTGGGACGTCGTTGGTTCGTTGAGCTGGTGTAAGC
CTGGTGGG

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 934>:

GNMQA92TF gnm_934

TTTCGATGCTGCCTTCAAACGCGCCGATAACACGGCTGGCGAGGAAGCGGTGCAGAGGT
TGACGGCGAGCCACATCCAGCGTTTTTCACCGAATCCACACGGGGGCGAACAGGTCTT
40 CCTTTCCTGCAAACCCGCATATTACGCATATCCGCTTCCGATTCTTCGCGGATCACGT
CCACCAGCTCCTCCCGGTAAAGTCGCCGATTTCGGTCTTTGAAGCGAAATGGTAAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 935>:

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GNMQB81TF gnm_935

TATTTTATCAGAATGCCGATGCTTGTTCTGTTTCAAATTAATTTCTTTTCAAATAAATTA
 CTTATTCGGATTTGCCGGGGCTTTCCGATAAATTCCTTGCCAAGGTGCGGCATTGCCTGC
 ATAATTCGCTTTCTTTGCCGGGATAGCTCAGTTGGTAGAGCACCTGACTTGTAAATCAATC
 5 AACAAATTCGGCGCTTTCCACGTCATGTCGGCAATATGGGTGGCAAAGTTGCCGCCGCTG
 TAGGAGATGAAGCGGTGCGGGTAAAGTTCGACGGCGCGAGTAACGTGCGGCCCTGCCCG
 AATACGACATCCGCGCCGAATCGACGGCAAGCCGCGCAAACCTCAACGACGTTGCCCTG
 TTTTCCCATAGAAGATTTGCGTATCGAACGGCAGGTGTTCCGCCTGTTTCCCTTCCGCG
 CCGCCGTGGAACATCAC

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 936>:

gnm_936

CGAAAATGAAACGGGTAAACACAAATAAGGCCTGTATGCAGGCAAGGTTTATTTGTGTT
 TGACCCGGAAACGGGTTTCAGACGGCACGAACCGGGATGCCGTGCCGTCTGAAAGGGGTTT
 15 ATCGGGTGGCGCGGTAATCTGCGTCGGCTTTTCAAAGCGTTCTTGGGTTTCGCGCGAAG
 GTTCTTTGTTGAACAGGGAAACCAACAGGCAACGATCAAGCAAACAATAAAGCCCGGCA
 CGATTTTCGTACATCGTCAACAAGCCGCTTTCTCTGCCGCTTGAGCCGGTTTTTACCC
 ATTCGCGCCATACGACTACGGTTAACGCACCTGCAACCATAACCGACAACGCGCCGTAGG
 CAGTGATGCGTTTCCACAATACGGACAGAATCACAATCGGGCCGAATGCCGCGCCGAAAC
 20 CTGCCCACGCGTAAGACACCACTCCCAATACTTTGCTGTTTCGGATCGGAAGCaTCAGGAT
 GGAAATCACGGCAATCGCCAAGACCATCAGGCGGCCGACCCATACCAATTCCGACTGATG
 CGCGTTAATACGCAAAAAGTCTTTGTAGAAGTCTTCGGTAATCGCGCTGGAGCAAACCAA
 AA

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 937>:

gnm_937

GCTTGCCGCCTATTTTCTACGCGCAATTTGACGATTATATTTTGGGCGGGCGCAGCCT
 AGGCCCCGTTTGTACCGCGATGTCGGCAGGCGCTCCGATATGTCCGGCTGGCTTTTGAT
 GGGTCTGCCGGGCGCGATTTATTTGAGCGGTTTGAATGAGGCTTGGATTGCCATCGGCCT
 30 CTTGGTTCGGCGCGTATTTCAACTGGCTTTTGGTGGCGGGCCGTCTGCGCGTACATACCGA
 ATACGCCAACACGCGCTGACGCTGCCGATTATTTCTCCACCGCTTTGGCGGGGCGG
 ACACCTTGATGAAAGTGGTTTCCGCACTGATTATCCTGTTTTCTTACGATTATTGCGC
 CTCGGGCATTGTGGCGGGCGCAACCCTGTTCCAAAGCCTGTTTGAAGGTATGACTTACAA
 TCAGGCAATGTGGCTGGGCGGGCGCGACCATCGCCTATACCTTCTTGGGCGGCTTTTT
 35 GGCGGTAAGCTGGACGGATACGCTGCAGGCTTCnTtGATGATTTTCGCGCTGATTTTAAC
 GCCTGTGATGGTCTATCTGGGCTTGGGCGGCGGGAACAGATGTCTGCCGCGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 938>:

GNMQE49TF gnm_938

CCTAAGGCACATGTCATTATCCCCATTCGATAGGTGAGGACACTGAGGTTTCAGGGAGGGG
 AGACATCTTGCTCCTGGACACCTCAGCTGGGGAGGAAGGCAGTGGCGATCATTCTTAGGA
 ATCTCCGACCGCCATGGGCTCCTGCTCTGTGCACCTCAGGAGCTTACGGTCTGGTTACA
 AAAATGCCATCTGCCTATGCTGAATTCTAGGCTTATGAAGATCCAAGACATATTCCTGAA
 AATCCATATTTTCATGCATTGTACTATCTT

40

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 939>:

GNMQE84TF gnm_939

5 GAACATACCAATTTCGAAAACATCAATAACTCAAAAAAGATTTCTTTTATGATCAAGAAT
ATACCGAAGGTTACCTAGTTGGCTTCGCCCCGAGGTTTAGGGGTGCAAAAAGAAATGGGG
AGCAGCTGTTACAACAGCCAGTTTTCGCGCGTATTTACGGCAGGTGTTAATAAATTTTCAT
GATATTTTCCTTCAAAAAGTGTTCGGCGGTAATGGATGGAGCGTTTTCAGACGACCGCC
GAACATCCGAAAATCAGTCTTTCAAAAATCCGAATACGACAAATTCGTATTGGTTGCCGA
10 TTTCTTCCAAACCTGCGTTAATCGCTTCTTCGAAGTCGTAGAAATAATCGGCATTGGTGA
TTAATTTGGTATGTCCGATGTGCGCCCGTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 940>:

GNMQF69TR gnm_940

15 CAGCATCATCGACAATAATGCTACAAGTGTGCAGGGTTTCGTTTGTGCGGCGGTTTGGG
GCATTGCATTCATGGTCATTTTCCTGATTCTGTCGTGTGTTGCCGAATCGGGCGACCTGT
GTGAAGGTAACAAAAAGCCCGCCCGTTTTCGAGCGGCCTGTTTTCGTATGGGATGGAT
TTCAAGCAAGCGCAAAAAAGTACCGCACGCTCTGTGTGGTACCAATAGCAATAAGCGGTTG
TAAATTTTTTGCTTGCATGATGAAATGCCGCTCTGAAGATAAAAAATTTGGGGAGATTCT
AAATCAAAACGCTGCCGCGCCTCAAGCATTTTATCGAAATTTTTTTGATTTTTCATCTAT
20 CCGATTGAAAATATTTTCGGTTATTTTTACCGCTGCCCGATATTGTCGGCAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 941>:

GNMQH20TR gnm_941

25 CGGATTCCCGCCTGCGCGGGAATGACGAhCTCTCCGCATCTGATTTTGGACCTCTTGAC
GCGATTTGCTGCATTTTGAAGTGTCCACCAAGATAATCATAGTAAAAAATCGTCCATCA
GCTGTTGGCTGATGTTGAGAATATTGATTTGGTTTTCCGCCAAAATTTTGAAACATCGT
ACACGATGCCGACGCGGTCTTTACCGATGACGGTGATGACTGAATTGTTACAGGCTTAC
TCCTTGACAGATATCCGTTAAAGTCCGAATTATACCACCGTTGGATTTTGAAGAAATATT
GTCAACAATATATACATACAAAATGCCGTCTGAAACTATTTAGACAGCATCAAGATTCA
30 GGGTTCGATTAAATAACCATCCTTATCCCACTGGGTTTTCTTGACCAACTTGTCATCCTG
ATAAACAGCTTCGCTCTTTTAGAACCATCTTCATACCACTCCAAAACCAACCCCGTTGCG
TTGATGGTGGCGGATAGACAGTTCGAGAGTAATCGGCCGCTTTCATCCAAGTCAGAAT
TTTGGCAGGCTCATCGTTGACCATAACCATTTCCGTCTTGATACTGCCGTGCGCATACCA
TTGCTTTCATACGCCGTTTGCTTATTTTGCTTAAACTGGATTCGCTTTCCTTGCCGCC
35 GTTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 942>:

GNMQL93TF gnm_942

40 CCTACAAACCCGGCCGCCATTCACTCGCAGACTTGGCTAAGTCGGATATTGAAAATCGAC
AGCCGAATTTACAGGGCGCGTGGGACGAAGGTTTGAAAGGCTATGCCGCGCTGCGCTT
CATCGTCAACGCCTTACGCGGATGCGCGCCCTGACCTTTAAAAACGAAGTGGATTTCTGA
CTACAAATCCACAGTGAAGAAAAATGCCGCTTACCTGCGCCCGTGGTTCAAAGCCCCCG
ACCGGCAAAACCTCGACCGACCATCATCTCGGACACTGGTCTCGCTGGGCTACACGA

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ATGCCGACAACGTCATCTCGCTGGACACCGGCGCGGGCAAATGCTTCCGAAACAGCTGT
 TAAAAATAATGCATTAGATATTATTTGGGATATTGGCAACCTCGTATGGGACGGCGGTAA
 ATGGATTTACGCCAAATCTATTGGCGATAAGCAGATGGCTCGAGAAGCGGCGATTGATT
 TGGTGTGGATGCCGCCGAGCTGCCGTTCCCTTTGTTCC

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 943>:

gnm_943

AGCGGGAAGGTTTAAATAGTTAGGACGCCGGTCCAGAAGTAGTTACTACCCAAAGAAAGT
 GCAACAGTCTATCGGCTGAGCTGCTTCGTGTGGAAGACGCAATGGGGTCTAAACTCACAA
 10 TTGAAGTCGTGGACGTTGGCCCATTTGGTACGGCAGGGGAGTGCCCTCGCAGGTCGACGAAG
 GCGTACCGCAAAGCGCTCGGAGGCACTAGAAGCGTGAACGCCGATACGAGCAGTGACAA
 AGTGGGCGAAAAGTTTGTCTGTTGAAAGTTTAAAGGCCCTTCGTGTAATGCCTACTGGTGC
 AkggCGAGCTGGTTTTCAAGGTGAGGTAGAAACGTGCAGCTGACGGGAAATAGGCCAACA
 CCTTCGCATCCGACCTAACGTGACGCGGGGATGGAGAAGGCCAGGCCGGTAAGTCGCCC
 15 GAACAGTCCGCCCAAGTTGGCAGGCGGAAGATCCAGGTAAACTTGGGCTCCTCCAATATT
 GAGAAGCCGATGATGAGCGCTCATGGATATGAAGTAATTGACATTATGTCTTAGGAAAAG
 TTATCAAGTCCTAGCCCGAACTGAATTGCATTGTATATTGATATAGGCGGGTAGGACGAG
 AACCTCAAGGTGTCCGAGAGAATCTAGG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 944>:

GNMQM32TR gnm_944

CTATCCGAACCGCTGCCGCCCTCCAAGTAATCATTACCGGCACCGCCGATCAGAGTGTCTG
 TTACCGTCTTCGCCGGCTGATGTGTACCAAACCGTCTTTGCCCGGCATCACGCTGACAAAT
 CGCGCCGACATTGTTATCGAGGATTTTACCACAGTGCCCTTCGTACACTTTGCCCACTTC
 25 CACTTCGGCAGTAATCTGCTCGATGCGTTTTTTCGCCGCATCGCCGGCTTCTTGAGTGGT
 TGCGGCAATGGTAATCGTACCGTCTTCGGCAATATTGATTTCCGTACCGGTTTCAGCGGT
 AATCGAACGGATGGTTTCACCGCCCTTACCGATAACTTCGCGGATTTTGTCTTGGTTGAT
 TTTATCTGATCCAAGATGTGCAGACGCGCTTCTTTGGCCTGTGCCAAAGCGATTTCAT
 30 AATTTCTTTGGTAATGCCCTTGGATTTTGATGTCCATTTGCAGCGCGGTAACGCCTTCGGT
 CGTACCGGCCAGTTTAAAGTCCATATCGCCCAAGTGGTCTTCGTGCGCCAAAATGTCAGT
 CAGGACGGCAAATTTGTTGCCTTCCAAATCAGACCCATCGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 945>:

GNMQN35R gnm_945

GCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTTCGTGCGCTTGTCTGATTTTTG
 TTAATCCACTATAAAAGAGGGCGTCTGAAAAACATTTTTCAGACGGGCTTGTTTATTCAA
 TCAAATTAGTCTTTCAACTTTGGCAACTGATTTTAACTTTTGCCATTTTGCTTCCAAT
 TCCGCCAAATCGGGTTTGCCTTTTCCCCCAAATCCCAGGGGGTTTTTC

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 946>:

GNMQN72TR gnm_946

AAACGTCCTACACATCCTTTTAGTGCAATTTGCTTAAATTTGTTAAACTTGGTAGGGCC

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CTTATCTTCGAAAAATTACCTCTTGTTAATATGTTGTGTATTGTTGTGTTTCGACTGAAA
TTGCGCCTTAGTAACAAAAAATTGTTCCCTTGTTAAATGGCTGGGTGTGTTCCGTGTTAAG
GCGTGGACGTAGTCCAGGTTGCTCGAAAAGCTGGCTAGTGTGACCCGTGGTCTAAATTGT
5 AACGTTTCCGTAATAAACGCCCACTGTTGCCCTGACACAGGGTGGGCCGGATATGACG
ACGCTTTACCCTTTCCCTAGATGSTACACTGGCGCTGAATTATGAATTGCGCGTAAACCTG
ATTTGTGTGTTTAAACTTGTTGTACCCCTTGTTGTTGCCCTAAGGGTGGGTGGGTGCGACG
CTGGACGTGTGTATAAATGTACTGGGGTGCCTGAGTGTGATGGCCATGGGAATTGTGTG
TCGTTTGTCTTAAACTTTATATGTGTTGCCCTGGGTAGGTGTGTTAACATGGTCCTG
ATTAAACGCCTGGCCCTGGGGTGTGGAAGTAGTATGTCTGGACC

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 947>:

GNMQO54TRB gnm_947

GGGTGCATGCTTAAGAAAATTATTGTTACTAGTGTGATTAAGATTAGGTGCAACCCGCTG
ACGGGGGTGATCCGTGAGGTGCCGTTTAGCCGTAGGGTCCCAAACAGGTGAGTTAAGAC
15 GTGTTGGCAGTAAGATTGGACAGGACGAGGAACGCTTAGCCGTGTTTGCAAAGTTGCCT
ATATTTCGTTACCCGTTGGCGCAGGCCAAAAATAACAATAAAGTGGTAAGGACGATTAAG
GCGTGGACAAAGGCGGTGAACTGGAACACATTTTCGCAAATTTACCCCGGTGAAAACA
GTGGCTAACGAGGTGAAGTTCGTTGACGTTAACGTTTAAATAGTTACGTGCCGTCGTTT
ACGCCCTCTTCCGGACCGCAATAACACGAATGGCACCCCGCCGTCGTGCTAAAAACC
20 CTATCGTGGGCCCCGGCGTGGACAATGCCACAACACGTTTCGACACCCCTAACTTATTC
GCCCCGTGTTTCGACGTCCCTAGATGGTACGCTTTCTTCTACCCCTCAAAGGAAAGCTACGA
GTCCTAAAATTGACGTTGAACTGTAACTTCTTATTACGTGTTTGACCGGTGAAACCC
GTTGTTAAGTCCGGCTCGAA

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 948>:

GNMQP31TR gnm_948

GCTGTAAATGTTCAAACACTACGCCGTCCACGATTTTGCCGAGTTTTTGGAGCTGTACGG
CATGCCCATCCGTATCGGCAAATACGGCGCGGGCGCAACCAAAGAGGAAAAAACACCCCT
GCTTCGAGCGGTGGCGGAAATCGGTGCGCGGGCGTGGGCGGTGAGGCTTTCGCCGTGTGC
30 CAGCACGCTGGCGGTTTCGCCTAATTTTTGCGCGCCCTGTTCCGAAACCTGAATCAGGCT
GGAGCGTTTTTGGAAATCATATGTCCCCAAGGCGAGGAAAAGCGGGCGGTTCGGCTGGT
GGGCAACACATGGTTTGGACCGGCGCAGTAGTCGCCGAGGCTTTCGCCGGTGTAGCGTCC
CATGAAAATCGCACCGGCGTGGCGGATTTTTTCGCCCATTCCTGCGGGTTTTCGACTGA
CAGTTCCAAGTGTTCCGGGGAAATGTAGTTGGCGATTTTCGCAAGCTTCGTCCAAGTCTTT
35 GCGAGTATCATCGCGCCCTGTTGCCGAGCGAGGCTTCGATGAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 949>:

GNMQP64TR gnm_949

ACAAGAAGCTGGTAGCTCCACCGCGGTGGCGGCCGCTCTAGAACTAGTGGATCCCCGGG
40 CTGCATGAATTGGCACGAGCTCGTGCCGAATTCGGCACGAGCGACTGCATTGGGAAGATC
AGTTTTCTGCCATCCAGGCTGCTCCCTCCTCAGCAACTCATTCCACAGATCTCCGA
GACAGGACGGATATCCAGTGCCTTATCCCATGTGCCATTGACCAGGATCCTTACTTTAGA
ATGACAAGGGACGTGCCCCCAGGATCGGCTATCCTAAACCAGCCCTGTTGCACTCCACC
TTCATCCCAGCCCTG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 950>:

GNMQP64TF gnm_950

5 TGGGTACCCGGCCCCCCTCGAAGAAGAAGGTCAGGTACATGAAAGACACGTCCACATCA
CAGTTGCCCCCAAACCTGCCTGTGCTCCTCGATGGTGTCTCTCCCTCCAGAAAACGCATGC
TTATTGACCTTGGTTTTGATCTGCTTGGCCGTGTCGGTGAGGAAGATGGCGGAGTTGGGG
TCGCTGGGACTCATTTTGGTCTGGGCGACCTGCATGGCTGGGAAGAAGGTGGAGTGCAAC
ACGGCTGGTTTACGATACCCGATCCTGTGGGCGACGTCGCTTGTCATTCTAAAGTTAAGA
10 TCCTGGTCAATGGCACATGGGATAAGGCACTGGATATCCGTCCTGTCTCGGAAGATCTGT
GGGAATAGATTGCTGAATGATGGAGCATCCTGTATGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 951>:

GNMQR24R gnm_951

15 CTTGCCCCGAAAAACGTGGCGTGTGCACCCGTGTATACACAACTACCCCGTAAAAAACCT
AGTGAGTTAGCATCATATTGCTGCCATTTTTCACGGTCTTTCCCTAAATAAGCAGTAAAG
GCTTTTTCTCCCCACGGCACGAGGCTTGGCGATAAAATAGGCGAAAAGGCAGAAACACTT
TGATAACGTTCTGATTCCGCAGCGCCAATACCAATGCGCCGTGTCCGCCATTGAATGT
CCCATAATGGAACGTTTGGCGTTGGTAGGAAAGTGTCTCAATCAGACGGGGTAGCTCG
20 TTCAAAATGTAATCATACATTTGATAATTCGCCGCCCAAGGCTGTTGGTTCGCATTCAAA
TAAAGCCTGCACTCTGTCCTAAATCGTAAGCATCATCGTTCGGCACTTGCTCTCCGCGA
GGGCTCGTATCCGGGGCCATCACAATTACTTGATGTTCTGCCGCATAACGCTGAAAGCTG
ACTTGGTAATGCAATTTTGTTCGTACACGTCAAGCCGGAAGCCAAATAAATCACACCAA
GCGGTGATTTTCTGGATTATCT

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 952>:

gnm_952

GGCTGAAAATCATGCAGGACGGGTAATCGGCGGCTTTGACGGCTTCTGCCCAAGCCACCA
AGGATTCATCGGTGTGCGACAGCGCCATACGTCCATATTGGAATCAGGCGCAGGGTAG
CGGTTTGCTCAATCGGTTGATGGGTGGGCGGCTCTCGCCCAAACCGATGGAATCGTGGG
30 TAAACACAAATACAGGGTTGATTTTCATCAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 953>:

GNMQU51TRB gnm_953

35 CTGTGGTGTGGGTGGGACGTTTCGTTCCCTTGGACCCAGAGGCAAATGACCCTGTTATCT
TGTTTCCCGTCCCTGGTATCCGTTTATTAGATAAACGTGGGTAGTATGCTTTTGAGTCC
CCGTGCCTGTCCCCGGTCTGTTTGGACGGGACCCGACGTGCCGTGGGGAACCGACGGGG
TTGGGGATGAGGATGCCGGTGTGTAGGCCGTGAAGTGCCTTTACCTGCTGGTGGTGATC
CCGTATAGGCAGCCTAATGTGGTCCCGATGTGTTGAAGTTGTTTTAGCAGGTCCCGGGC
GCCCTGTTGCGGTCCCTGTTGATGAAGACGATGGATGTGCTGGGTGATCGTCCTAGTAGT
40 GGGAAATAGGGTGTGGGCTAGTTTACAGGCGTGATGGCGCGACGTGGCACC GGCCGATT
TACCTGGTGTATGGCCCGAAACTTAGTGGTGAGAGGGTGCAAAAACAGTTGGTGTAGCGG
ATGACGTTGCTTAGCCCGTTCCGTGCGGTCTGGTAACGCGGGTGGTGAAACGCCTAAAC
CTCCCCCTCCTGTGTCAACAAGGCTAAAGTAGACGGTGAACGGCCTGGGGCACTTGGTC

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CTGATAACTGTGCTACATATCCCCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 954>:**GNMQU68TRB gnm_954**

5 TTTGATAAGGAACCCGTGTCATTCCAGGATTGCCACAGCCATGGTTGTTGCCCATCGGGGT
CCTGACTTGACGTCTCTATACTCCTAACCAATTCCTTAGTATTGGGTAGGTGCTATATTT
CACATGCTTATCCCTGCGCCAGTAGAGCGTCGCGCCCCAACAAATAGCTGTAGTTATTC
ACCTCTCGTGATTTCTTGGGGTCCATGGAGTAAGCTTCCAATTCCAGAGGGTACATTCTCT
CTTTGAAGCCATGGCACTAACCCGTTGAGCCTTCTCTCGAGCCTCTCTAAGTGTTC
10 GAACCTCTACTTCGTTTTATTCGCGCTGGCCCGTGGCATGGCCTGACCTAAATCGAAGTCC
AGCGGTCCCCTTCGGAAGTGCGGCACTGGCCGTCCTGCGCTGCAGATATCTGCTGCTAT
CCTCTGGCGCCAAGAAGATTGGACCCGTTCAAGCTCCTTATTCATTGGTCCAAATAAGT
CACCTTAATAGTCCGTTAATTCAATTCCTTGTCTTTTATACGTACCCGAACCTAAGCAT
AGGAACACCAATTCGCCCTTACTGATCATGTACCCTCGTTCTGTTCCAGGGGTGATCTA
15 TTTCATGTTGACGAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 955>:**GNMQU88TRB gnm_955**

CGTGTGTTGCTGGCTTGACCTCGTTGGAATATAAGTTGTACCATTGACGGGTGCAGGTA
20 TGTGGAAGATTCTGCGCATGGTGCAGTATATGGTACTGACACGCCTGATCGTGCAGCGT
TTATTTGTAACGTATGTAATGGTCGGTCGCCCATTTGCCCTGGTGACCCGAAACTAAAA
ATGTTAAATATAAGTCTGATAAGTGCTTGACAGATGAAAGTCGTATTGTCATGTTTCGTT
AAAATCCTAGTTGTGTTTCATTTCGTATTACTCGTATTGTATTGGTGAAACTCCGGGTGTAT
AGCCGAATATTACTTATAACTCGTACCCTCATTAAAGCTACCACGGTGGAACGTGTGAAG
25 TTGCTGAATAAGGTAAACCCGTTGATCGGTAGGTGTGACCTTATGAAAATTGTGTATGTG
GTATAGATCGACCTTTTCGTAACGTTGCTCGAAGTTGTCCTAGATGGTACCCCGTTGTCCC
ATTTCAATTTGTATACCCCTTAGAAATTGACTACGTCCTTACCTCCCTTAGAATTTCTTT
CCCTTCACATGTAATAAAATTGCATTGTTGCCCCGTCGCCGAATTCTGGTATGTTTGATG
TGTTGATTG

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 956>:**GNMQX55TF gnm_956**

AGGATCCCCACGAACACAAAATGACCGTACAGACCAAGACAAAAGGTTTGGCGTGGCAAG
AAAAACCGCTATCCGACAACGAACGCTTGAAAACCGAAAGCAATTTTTTACGCGGCACGA
35 TTTTGGACGATTGAAAGACCCGCTCACGGCGGGCTTCAAAGGCGACAACCTCCAACCTCA
TCCGCTTCCACGGTATGTATGAGCAGGACGACCGCGACATCCGCGCCGAACGCGCCGAGG
CAAACTCGAGCCCTTGAAATTTATGCTTTTGGCGTGGCGGCTGCCGGGCGGGATCATCA
AACCGTCCCAATGGATAGAACTGGACAAATTTGCCCGGGAAAACAGTCATTACCGCTCCA
TCCGGCTGACCAACCGGCAAACCTTCCAATTTACGGGGTGCCGAAAGCCAAGTGCAGA
40 CGATGCAACGCCTCCTGCACAACTGGGTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 957>:

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GNMQY03TR gnm_957

5 CCTACTCTCCCTAAGCAACGAGATGAAACAGCGTATCGACTCCCTGCCGGTTGAATTTTC
CGAAAAAACGCGACGTAACCAAGCATCAACATATATAAGAACAGCACAACCTAGCATCAATA
CATCAGGCAACGAAATGCAGAATAATGCACTTAATGGTGTGGATATCTGTTGTTTTG
TGCTGTAGTAATTCATCTTCTGTGTTTACAGTTTAGCAGTTGTACAGTTTTATAGTAA
TGTTTAAACAATGACTGATTTATTTTAAATGCAGATATTGTCGAGGATAAACATGGCCAA
AGCCCTTTCAGTAACATTTCTGATTTTTTAGCGAGCCTTCTCATTTCCTCCAGCGAGATCG
GTACTGGTACCTGTACTTTGGCCGCCGATATGCTTAAGTTCAGTAACCTTAGCGCGCAAA
TCCAGTAACCTTACGTTACGT

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 958>:

GNMRB37TF gnm_958

15 CACCAACCTATGTGTCGTCCTGATCTGGGAGGAGTTGTCCCTCCCAAACAAATCTGATTC
TACCGCCCCGAAGAGCGGGGTTCAACCGACAAGGAAGATTGATGAACAATATGTTTGCC
GCAAAATTGTCAAACCTGGTTTATACCGCTTCCGACCATCCTGATTCCCTGTGGAGATG
GAGGAGTTTGACCGCCTGATTCTGCTGATACGCAAACTGTATCAAATATTGGACGGGCAA
CATATCCTCTCCAGAGTAACGGTTTGCTTACCACCAAAACCGCGCGACCTGATTGCC
TTGGATAAAGCGGCTGCCGGTTGCGATTGCGCAATGTTGCGCGCCCAACGTTGGCTCGGA
CGACATGGTCGCGGCCATAAATTCGGCGGGGTAGTGCCTTTAAGCCATGCGGTCTGGTA
20 GGAAATCAGGGCGTAnGCGGCGGCGTGGGATTTGTTGAAACCGTAGCCGGCGCAATTTTTC
CATGTAGTTGAAGATTTGTCGCGATTTTTCGCGCGAAATGCCTTGTTTTGCCGCGCCTTC
GGCGAAGATTTGCGGTGTTTACCATTCTTTCGGGTTTTTCTTACCCATGGCGCGACG
CAGCAGGTCCGCGCCCGCCGAACGAGTAACCGCCGGATAATTTGCGCCGCTGCA

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 959>:

GNMRF35TRB gnm_959

30 TATCGCATTGTAAATAGTAAACAAAGTAAAGTTTGGGCGGTGGAACCGGCAGATGTGTC
AGTCCTAGGCGTCAGCACTTCTATGGGCGCGGAAGCCTGAGCTCCTCTTTGGGTATTTAA
CTAAACGTCCTCCGTCACCCCTAACACCCAGACCGTTTGGGCGGTGGAACCGGCAGATGTG
TTAGTCCTAGGCGTCGGCACTTCTACGGGCGCGGAAGCCTGAGCTCCTCTTTGGGTATTA
AACAACAAACCACTTTGACCGGGACAACCTTGTACCAGAGAGGCGGACGAGCGGCCCA
AGCTGTATGTTGCGAAAGTGCGCACATGCGAACAGTGCCTGAGGGCCTGAACCTTCTCTT
CTCTCGTTAAACATAAACTTTAAATCCCCATGGCCCGGACCCCCACCACCTAAATAAC
AACCCTACCGGGGAAATTTGCCACCGCTCACAACCTGCTACTAATTGTCCATAATCACTTG
35 CCATTGCCCCCGCGGCACGCCCCGTGGCACGCCCCATTCTCCTTCTAGTTCGCAAGGA
TCTAAAAGGTGCACCTTCCTAAATGGTACCGCCTGATACGTCGTTGGGAAGTTGAATTTG
ACATTGAAATGTGATGGGGTGACACATTGTGCGAAAAACGGTGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 960>:

40 **GNMRH76TR gnm_960**

CATGTTGGTGTCTCATTACGCCCTTTCTCCCAAGAATGGTAAGGACGACAGGCAACGGA
CGGTAAACGAAGAGCTTGAAGAGTTCGTTCAACTCAATCGAATCCGCCCCGTTTTCAAC
ACCCAACCCTGTCTGCCGAATAGATGTAGCCGTGCCGCGCCAGCTTTTCCAAAGCTCG
CCCAACTCGTCGTAGCCCATATTGATATGCCGTCTGAACCTCTGAACAGGCAAGGCTTTG
45 CCTTCTTTTTGCGCCGCATCCAGAAGCAGCAGGATTTCAACACGTCGTCAAACCGTCCG
CGCGAGTCGAAGCCCCCTGCCGAACGCTTCTCCCTGCCAGTAGGAGAGTGAAGAAGTCAGC

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CGCGAGTCGAAGCCCCTGCGGAACGCTTCTCCCTGCCAGTAGGAGAGTGAAGAAGTCAGC
ACCGCGCCGCCAAGACCAGCGTCCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 961>:

5 **GNMRI44TR gnm_961**

TAAGGCAAAAACAAGCGTTTTTCGTCATTTTGAGGCGTGTGGATTATTCCTTAGGTATTTT
CGGGCCGGAGACCAACGAGGTGGCGGGTGTCTCGGTACGTCCGGAGACCAAAATAACTT
TGCCAGGGATGTTGGTTTCGGCGGTCAAAAAAGTAGCGTCTTAATGTTTTCCATTTAAA
CAAATGTCGGTGAGGATGCGGTTGTTTAAACGATTTGCATGGCGTTGTGCAGTTGCAGC
10 AGGTAAACGGTCGGGGCGGCGAGTCCGATGAGGACGCGTTCGGCGGTGGGGTGGATGCGG
AAGCGGTGCATCAGTGCGTTGTTGTTTTGGAGCCGGCCGTTTCAATTTCCAGTTGCCGATG
ACCCATTTTTGATCCACATTCCGATTTGGCGATACATCTTTTTTGCTCCGTGTCGTGTT
TTTTTGCTGCGCGTGTGGCGCGGTGCAACGTGAAGTTTAGTGGATATGCGGCGGGTTC
GCAACTTGAAGCGGCCGGCCGGCGGTTTGGAAATGTTGTTTCGGGCAGGCTGTTTTATAA
15 TGGCCGCCTGATATGTATGCAACTATAGGAGATGTGATGCACGCGCTTCATTTTTTCGGCT
TCGGACAAGCCGCGCTTTATCGGGAGGTGTTGCCGCAGATTGAGTCTGTGGTGGCTGA

INTERNATIONAL SEARCH REPORT

Intern: al Application No

PCT/US 99/23573

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12Q1/68 C12N15/11 C07K14/22

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q C12N C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 467 714 A (MERCK & CO INC) 22 January 1992 (1992-01-22) page 5, line 28 - line 40 claims; example 3 ---	1-4, 7-14, 18-24
X	WO 98 17805 A (RAYMOND NIGEL ;QUINN FREDERICK D. (US); US HEALTH (US); RIBOT EFRAI) 30 April 1998 (1998-04-30) the whole document --- -/-	7-11, 19-21

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "A" document member of the same patent family

Date of the actual completion of the international search

10 October 2000

Date of mailing of the international search report

04.01.01

Name and mailing address of the ISA

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Authorized officer

Luzzatto, E

INTERNATIONAL SEARCH REPORT

Internal Application No
PCT/US 99/23573

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>FLEISCHMANN R D ET AL: "WHOLE-GENOME RANDOM SEQUENCING AND ASSEMBLY OF HAEMOPHILUS INFLUENZAE RD" SCIENCE,US,AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,, vol. 269, no. 5223, 28 July 1995 (1995-07-28), pages 496-498,507-51, XP000517090 ISSN: 0036-8075 the whole document</p> <p>---</p>	1-4, 7-14, 16-24
T	<p>TETTELIN H ET AL: "Complete genome sequence of Neisseria meningitidis serogroup B strain MC58 [see comments]." SCIENCE, (2000 MAR 10) 287 (5459) 1809-15., XP000914963 the whole document</p> <p>---</p>	
T	<p>PIZZA M ET AL: "Identification of vaccine candidates against serogroup B meningococcus by whole- genome sequencing [see comments]." SCIENCE, (2000 MAR 10) 287 (5459) 1816-20., XP000914964 the whole document</p> <p>---</p>	1-4, 7-14,19, 20
T	<p>PARKHILL J ET AL: "Complete DNA sequence of a serogroup A strain of Neisseria meningitidis Z2491 [see comments]." NATURE, (2000 MAR 30) 404 (6777) 502-6., XP000918875 the whole document</p> <p>-----</p>	1-4

INTERNATIONAL SEARCH REPORT

Int. application No.
PCT/US 99/23573

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 16,17 (partly)
because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(v) PCT - Presentation of information (insofar as related to computer databases)
2. ☒ Claims Nos.: 5,6,15 (completely), 18-24 (partly)
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-4,7-14,18-24 all partially

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

1. Claims: 1-4, 7-14,18-24 (all partially)

A nucleic acid sequence (SEQ ID 1), a sequence of a putative *N. meningitidis* ORF and the amino acid sequence it encodes (SEQ ID 962 and 963), the full length sequence (SEQ ID 1068) of *N. meningitidis* and uses thereof.

2. Claims: 1-4,7-14,18-24 (all partially)

Inventions 2-1002: A sequence from *N. meningitidis* (SEQ IDs 2-961,964-1045, each single sequence representing a separate invention, whereby the nucleic acid sequence and its encoded sequence are part of the same invention)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box 1.2

Claims Nos.: 5,6,15 (completely), 18-24 (partly)

1) Claims 5 and 6 (and 15, which refers to claim 5, the references to claims 7 and 8 being wrong) do not relate to any technical feature of the claimed entities, which are only tentatively characterised by means of their method of obtention: the claims thus lack clarity (Art. 6 PCT) to such an extent as to render a meaningful search impossible. For the same reasons, claims 18-24 have not been searched insofar as related to any of the said claims 5, 6, and 15.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/US 99/23573

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0467714 A	22-01-1992	AU 8114091 A	23-01-1992
		CA 2047043 A	20-01-1992
		FI 913473 A	20-01-1992
		JP 6056690 A	01-03-1994
		MX 9100272 A	28-02-1992
		NO 912822 A	20-01-1992
		PT 98381 A	29-05-1992
		ZA 9105629 A	25-03-1992
		AU 8113691 A	23-01-1992
		CA 2050635 A	20-01-1992
		FI 913475 A	20-01-1992
		JP 6016569 A	25-01-1994
		JP 6055679 B	27-07-1994
		MX 9100275 A	28-02-1992
		NO 912823 A	20-01-1992
		NZ 238974 A	23-12-1992
		PT 98382 A	29-05-1992
		ZA 9105627 A	25-03-1992
		AU 8113791 A	23-01-1992
		CA 2047030 A	20-01-1992
		FI 913474 A	20-01-1992
		JP 6041197 A	15-02-1994
		MX 9100274 A	28-02-1992
		NO 912824 A	20-01-1992
		PT 98383 A	30-06-1992
		ZA 9105628 A	25-03-1992
WO 9817805 A	30-04-1998	AU 5426098 A	15-05-1998